2014 VAPOR INTRUSION ANNUAL MONITORING REPORT FOR BUILDING NO. 1

Former Macbeth Kollmorgen Corporate Site
617 Little Britian Road
New Windsor, Orange County, New York

NYSDEC Site Number: 3-36-037

H2M Project No.
ZMAC 0101

May 2014

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TABLE OF CONTENTS

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1.0 Introduction

As requested by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH), H2M architects + engineers (H2M) conducted annual soil vapor intrusion (SVI) monitoring in January 2014 at the former Macbeth-Kollmorgen Corporate Site (the Site) located at 617 Little Britain Road in New Windsor, New York (NYSDEC Site No. 3-36-037). The objectives of the annual SVI sampling event were to monitor indoor air and sub-slab soil vapor concentrations at Building No. 1 and assess the on-going level of risk posed to site workers by concentrations of site contaminants previously detected in sub-slab vapor samples.

Based on comparison to *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), the prior (January 2013) vapor intrusion investigation results confirmed that indoor air quality was consistent with NYSDOH background levels and therefore was not a concern. However, based on the presence of trichloroethene (TCE), tetrachloroethene (PCE) and/or 1,1,1-trichloroethane (1,1,1-TCA) in prior sub-slab vapor samples at concentrations above NYSDOH Air Guidance Values (AGV), continued monitoring of sub-slab soil vapor at two (2) locations was required. No active mitigation was required based on the concentrations of TCE, PCE, and 1,1,1-TCA present in sub-slab soil vapor.

The scope of the annual vapor intrusion investigation conducted in January 2014 is described in the April 2009 Vapor Intrusion Evaluation Report that was submitted to NYSDEC and NYSDOH, and the response to comments letter submitted to NYSDEC in May 2009.

2.0 Vapor Intrusion Investigation – January 2014

The vapor intrusion investigation conducted in January 2014 included the collection of sub-slab and indoor air samples from two (2) locations within Building No. 1. The current operator in Building No. 1 is Pratt Industries, a manufacturer of corrugated products, including partitions and point of purchase displays. Pratt Industries (formerly known in past reports as Quality Packaging) was purchased by Pratt Industries; however, the personnel and operations at the facility are largely unchanged since the 2013 Vapor Intrusion Annual Monitoring Report for Building No. 1.

2.1 Product Inventory and Facility Operations

Prior to sampling, H2M reviewed and completed the NYSDOH Indoor Air Quality Questionnaire and Building Inventory form with Mr. Craig Gimenez of Pratt Industries, to establish whether the building construction characteristics, air flow patterns, heating, venting, air conditioning systems, and product inventory have changed since the previous (January 2013) SVI monitoring event. The NYSDOH Indoor Air Quality Questionnaire and Building Inventory form is included as Appendix A of this report.

The purpose of the product inventory is to document the materials used and/or present by the current operator while the sampling activities are being conducted. Quality Carton receives materials from other manufacturers (including bubble and stretch wrap, clamshells and blank corrugated sheets) and cuts, folds, and assembles these materials into the final products that are then labeled in accordance with customer specifications. The products are created utilizing counter, stacker, and partition assembler equipment.

Pratt Industries uses water-based inks to create labels on their products. On January 28, 2014, H2M personnel conducted visual reconnaissance of the operational areas to identify materials present and requested a material inventory list from Pratt Industries. Based on H2M's observations and information provided by Pratt Industries, the materials present at the facility consist of water-based printing ink, primarily Hydro GCMI 90 Black. A Material Safety Data Sheet (MSDS) for Hydro GCMI 90 Black is included in Appendix A. Chemicals known to be found in various printing inks are stored in sealed 5-gallon buckets in the vicinity of sampling points SG-2 and IA-2, and are listed in Table 1, along with their respective CAS Registration Numbers.

H2M also noted that several 55-gallon drums containing Sealed Air Corporation polyurethane foam resin 40W were present near the SG-2 / IA-2 location. This material contains glycerin (CAS No. 56-81-5), and the drums were labeled indicating that the polyurethane foam resin is "CFC and HCFC free."

During review of the Questionnaire with Pratt Industries, Mr. Gimenez informed H2M that lines on the manufacturing floor in Building No. 1 had been painted in the last week and varnish had been applied to some areas of the concrete floor and an exterminator had been engaged to apply poison for mice in the last 30 days.

Based on the pre-sampling site walkthrough and discussions with Pratt Industries personnel, the product inventory in Building No. 1 at the time of the 2014 sampling was consistent with the inventory present during the previous (January 2013) SVI monitoring event. Pratt added a new supplier/manufacturer of inks used at the facility (J.M. Fry) to their manufacturing process in 2013; however, Mr. Gimenez stated that all of the printing inks used on the corrugated packaging are water-based inks. MSDS sheets for the J. M. Fry products used at the facility have been added to the list of chemicals included in Appendix A.

2.2 Soil Vapor and Indoor Air Sampling

Based on the December 2006, February 2008, February 2009, January 2010, January 2011, January 2012, and January 2013 vapor intrusion investigations, and the NYSDEC October 8, 2008 response letter, an additional vapor intrusion investigation was performed to continue monitoring soil vapor and indoor air quality at the Site. On January 29, 2014, sub-slab vapor samples were collected from the two (2) permanent sub-slab vapor sampling points installed at the former SG-2 and SG-3 locations within Building No. 1. Two indoor air samples were also collected to monitor indoor air quality. The indoor air samples (IA-2 and IA-3) were paired with the sub-slab samples (indoor air sample IA-2 was collected adjacent to SG-2 and IA-3 was collected adjacent to SG-3). The indoor air samples were collected on the same day as the sub-slab vapor samples. The locations of the sampling points are shown on Figure 1.

2.2.1 Sub-Slab Vapor Sample Collection

On January 29, 2014, sub-slab vapor samples were collected from SG-2 and SG-3 within the main building. Pursuant to the NYSDOH guidance, the soil vapor and indoor air samples were collected using laboratory-clean 6-liter stainless-steel SUMMA® canisters and calibrated regulators that were set to facilitate the collection of samples at a flow rate less than 0.2 liters per minute. Before and after sampling, a helium leak tracer test was performed to check the integrity of the seal at each sampling location (as discussed below) to confirm the sub-slab vapor sample was not cross contaminated with indoor air.

Prior to initiating sample collection, three volumes of air were purged from each sample location using a low-flow vacuum pump set to approximately 0.2 liters per minute. Before sampling, the initial pressure of each SUMMA® canister was recorded in inches of mercury (Hg). The initial pressures of the SUMMA® canisters were 30 inches of Hg for each canister. The post-sampling pressures recorded for each SUMMA® canister was 1.5 inches of Hg for SG-2 and 0 inches of Hg for SG-3. A copy of the Canister Sampling Field Data Sheet is included in Appendix B.

Once sample collection was complete, the SUMMA® canisters were labeled and transported via FedEx to Accutest Laboratories of New England (NYSDEC Certification No. 11791) in Marlborough, Massachusetts (Accutest) under chain-of-custody protocols. The sub-slab vapor samples were analyzed via United States Environmental Protection Agency (EPA) Method TO-15 for Volatiles in Air and TO-15 SIM analysis to achieve NYSDEC-required reporting limits for compounds of concern including Trichloroethene (TCE, <0.25 micrograms per cubic meter [µg/m^3]), Tetrachloroethene (PCE, <3 µg/m^3), and 1,1,1-Trichloroethane (1,1,1-TCA, <3 µg/m^3).

Helium Leak Tracer Test

A helium leak tracer test was performed at each sampling location before sampling to confirm the integrity of the seal around the tubing and a second helium leak tracer test was performed after the samples were collected to make sure that the seals had remained intact during sampling. Laboratory-grade helium, a Model MGD-2002 Multi-Gas Leak Locater, clean plastic sheeting, duct tape, and plumbers putty were used for the leak tracer test. Sample dedicated Teflon tubing was attached to the barb fitting at the top of the sub-slab vapor probe that was extended through a hole in a piece of plastic sheeting that had been sealed to the ground with duct tape and plumbers putty. The tubing extending through the hole was also sealed and then connected to the helium detector. A separate length of Teflon tubing was placed underneath the plastic and sealed where helium was injected. After inflating the void space beneath the plastic, the sample tubing was connected to the helium detector to check if the helium was able to infiltrate through the cement seal into the ground. Afterward, as a control measure, the helium detector was placed under the container to make sure that it was able to detect helium.

Based on the helium testing performed at the SG-2 and SG-3 locations before and after sample collection, helium was not detected at the SG-2 location and helium was detected at the SG-3 location below 200 parts per million (ppm). A helium concentration less than ten percent (10%) does not indicate a significant leak (NYSDOH, 2006). Because the concentration of helium detected was less than 10% of the 100,000 ppm concentration found under the shroud either before or after sample collection, it can be concluded that no significant leaks occurred for the duration of the sampling period at both locations.

2.2.2 Indoor Air Sample Collection

On January 29, 2014, two (2) indoor air samples (IA-2 and IA-3) were collected at the site. Each sample was collected adjacent to a soil gas sample location inside the main building to assess the indoor air in the locations where chlorinated volatile organic compounds (CVOCs) had been detected in the sub-slab vapor samples. IA-2 was collected adjacent to SG-2, and IA-3 was collected adjacent to the SG-3. Both indoor air samples were collected on the same day that the sub-slab vapor samples were collected. The indoor air sampling locations are presented in Figure 1.

The indoor air samples were collected using laboratory clean SUMMA® canisters and calibrated regulators that were set to facilitate the collection of samples at a flow rate less than 0.2 liters per minute. The SUMMA® canisters were stationed so that the sample would be collected from a height of three (3) feet above ground surface. The initial pressures of the SUMMA® canisters measured -30 inches of Hg in both canisters. The post-sampling pressures recorded for each SUMMA canister was 2 inches of Hg. The Canister Sampling Field Data Sheets are provided in Appendix B.

Once sample collection was complete, the indoor air SUMMA® canisters were labeled and transported via FedEx to Accutest under chain-of-custody protocols. The indoor air samples were analyzed via EPA Method TO-15 for Volatiles in Air and TO-15 SIM analysis for TCE, PCE and TCA to achieve NYSDEC required reporting limits of <0.25 µg/m^3 for TCE, <3 µg/m^3 for PCE, and <3 µg/m^3 for 1,1,1-TCA.

2.2.3 Quality Assurance Quality Control (QA/QC)

In addition to collecting the soil vapor and indoor air samples, one trip blank was analyzed for the group of samples collected. The purpose of the trip blank was to assess the environmental conditions under which the samples were subject to upon storage and transport. The trip blank consisted of a laboratory-prepared closed and empty SUMMA® canister that traveled from the laboratory with the sample canisters, and then traveled back to the laboratory with the sample SUMMA® canisters following sampling. The trip blank was also analyzed for volatiles in air by EPA Method TO-15, in the same manner as the sub-slab vapor and indoor air samples.

3.0 Indoor Air and Sub-Slab Vapor Sampling Results

The following sections summarize the results of sub-slab vapor and indoor air sampling conducted on January 29, 2014. The analytical data are summarized in Table 2. The State of New York does not have any standards, criteria, or guidance values for concentrations of volatile organic compounds (VOCs) in soil vapor or sub-slab vapor. The sub-slab soil vapor samples and the indoor air samples are compared to the NYSDOH AGVs (Table 2). The laboratory analytical report for the samples is included in Appendix C.

VOCs and CVOCs were not detected in indoor air samples collected from either sampling point (IA-2 and IA-3) at concentrations above the NYSDOH AGVs contained in Table C.1 (NYSDOH 2003 Study of Volatiles in Air of Fuel Oil Heated Homes (90th Percentile Indoor Air Values) and Table C.2 (United States Environmental Protection Agency [EPA] 2001 Building Assessment and Survey Evaluation [BASE] Background Level Ranges, Indoor Air for commercial buildings). Additionally, because this is a commercial building, the indoor air results were compared to the Occupational Safety & Health

Administration (OSHA) Permissible Exposure Limit (PEL) time-weighted averages (TWA). OSHA defines the TWA for a substance as "the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded." No VOCs or CVOCs were detected in indoor air samples collected from either sampling point (IA-2 and IA-3) at concentrations above the OSHA TWAs.

CVOCs were detected in sub-slab vapor samples collected from both sampling points SG-2 and SG-3. Because the State of New York does not have any standards, criteria, or guidance values for concentrations of VOCs in soil vapor or sub-slab vapor, NYSDOH AGVs (which only apply to indoor air) are used as a mechanism to flag elevated constituent concentrations present in sub-slab vapor and/or indoor air. These concentrations are subsequently evaluated through decision Matrix 1 and Matrix 2, provided in the NYSDOH *Guidance for Evaluating Vapor Intrusion in the State of New York* (October 2006).

At the recommendation of NYSDOH personnel, VOCs (with the exception of PCE, TCE and 1,1,1-TCA) were compared to the Table C.1, 2003 NYSDOH Study of Volatiles in Air in Fuel Oil Heated Homes (NYSDOH, October 2006) to evaluate sub-slab and indoor air sampling results. However, based on the commercial use of the building H2M has also compared the remaining VOCs using the NYSDOH Table C.2 EPA 2001: BASE database, SUMMA® canister method for commercial buildings.

The results of the sub-slab vapor and indoor air sampling are discussed in the following sections.

3.1 Trichlorofluoromethane (TCFM)

Trichlorofluoromethane (also known as TCFM, Freon-11, CFC-11, or R-11) was detected in IA-2 (5.1 µg/m^3) and IA-3 (2.20 µg/m^3) at concentrations that are below the 2003 NYSDOH Study 90th percentile value of 17 µg/m^3, and within the EPA BASE background level ranges for indoor air (<1.7 to 1,015.3 µg/m^3).

Sub-slab vapor sample SG-2 and SG-3 contained TCFM at concentrations of 20.0 and 51.0 µg/m^3, respectively (Table 2). Both of the SG2 and SG-3 concentrations exceeds the 2003 NYSDOH Study 90th percentile value for indoor air of 17 µg/m^3; however, the TCFM concentration was within the EPA BASE background level range for indoor air of <1.7 to 1,015.3 µg/m^3.

The OSHA PEL for general industry for TCFM is 5,600,000 µg/m^3 as a maximum concentration at any point in time. Both the sub-slab vapor concentration in SG-2 and SG-3 and indoor air concentration in IA-2 and IA-3 are below the OSHA PEL and within the EPA 2001 BASE Background Level Ranges for this compound. Based on these data, no risks are presented with respect to TCFM in sub-slab vapor or indoor air.

3.2 Carbon Tetrachloride

Carbon tetrachloride was not detected above the laboratory MDL in indoor air samples IA-2 or IA-3 or in sub-slab vapor sample SG-3 (Table 2).

Sub-slab vapor sample SG-2 contained carbon tetrachloride at a concentration of 2.1 µg/m^3, which exceeds the NYSDOH (2003) Study 90th percentile value 0.8 µg/m^3 but is within the EPA BASE background level range of 0.5 to 2.1 µg/m^3 for indoor air (2001). Based on the lack of carbon tetrachloride in indoor air samples, no risk is presented with respect to exposure to carbon tetrachloride.

3.3 Tetrachloroethene (PCE)

Tetrachloroethene (PCE) not detected above the MDL in indoor air samples IA-2 or IA-3.

PCE was detected in sub-slab vapor sample SG-2 and SG-3 at concentrations of 3.3 µg/m^3 and 540 µg/m^3 respectively (Table 2). These sub-slab concentrations exceed the NYSDOH (2003) Study 90th percentile value for homes of 2.9 µg/m^3; however, no PCE was detected in the corresponding indoor air samples (IA-2 and IA-3). Concentrations detected in the sub-slab during this sampling event are similar to concentrations detected at these locations in the last several years. PCE was not detected above the laboratory MDL in either indoor air samples IA-2 and IA-3 and therefore no risk is presented with respect to exposure to PCE.

3.4 Trichloroethene (TCE)

TCE was detected in IA-2 (0.054 µg/m^3) and IA-3 (0.07 µg/m^3) at concentrations that are below the 2003 NYSDOH Study 90th percentile value of 17 µg/m^3, and the EPA BASE background level range for indoor air o <1.7 to 1,015.3 µg/m^3.

Both SG-2 (4.60 µg/m^3) and SG-3 (0.59 µg/m^3) contained TCE at concentrations that exceed the NYSDOH (2003) Study 90th percentile value of 0.5 µg/m^3 (Table 2). The TCE concentration in both sub-slab vapor samples are within the EPA BASE background level ranges for indoor air (2001) and the concentrations are similar to or less than the concentrations detected in samples collected at these locations in the past several years. The TCE concentrations during this sampling event are similar to previous sampling events and do not reflect an increasing trend in the sub-slab vapor concentrations (Table 5).

There is no risk presented with respect to exposure to TCE based on the concentrations of TCE in indoor air samples since both indoor air samples were below the NYSDOH (2003) Study 90th percentile value, within the EPA BASE background level ranges for indoor air (2001) and below the AGV of 5 µg/m^3.

3.5 1,1,1-Trichoroethane (1,1,1-TCA)

1,1,1-TCA was not detected above the laboratory MDL in indoor air samples IA-2 or IA-3 (Table 2).

1,1,1-TCA was detected in SG-2 and SG-3 at concentrations of 228 and 190 µg/m^3, respectively. Although 1,1,1-TCA does not have an AGV, it is evaluated through the same decision matrix as PCE and an AGV of 100 µg/m^3 was assumed for this compound. SG-2 and SG-3 both contain 1,1,1-TCA at concentrations that exceed the assumed AGV. These 1,1,1-TCA concentrations are similar to those

present in sub-slab vapor for these locations for the past several years, and do not reflect an increasing trend in the sub-slab vapor concentrations (Table 5).

There is no risk presented with respect to exposure to 1,1,1-TCA based on the absence of 1,1,1-TCA in indoor air samples IA-2 and IA-3.

4.0 NYSDOH Soil Vapor/Indoor Air Matrices

The NYSDOH Soil Vapor/Indoor Air matrices were reviewed to determine the minimum actions that are recommended to address the current exposures related to sub-slab soil vapor intrusion based on the January 2014 sub-slab and indoor air results. Matrix 1 was used to evaluate TCE, and Matrix 2 was used for PCE and 1,1,1-TCA. These matrices, including the January 2014 indoor air and sub-slab vapor results, are presented on Tables 3 and 4.

The following recommendations are based on the January 29, 2014 sub-slab vapor and indoor air concentrations:

- No further action (NFA) is recommended for TCE at SG-2 and SG-3 based on the TCE concentrations detected in sub-slab vapor and indoor air (Table 3).
- NFA is recommended for PCE at SG-2 based on the PCE concentrations detected in sub-slab vapor and indoor air (Table 4).
- Continued monitoring at SG-3 based on the concentrations of PCE detected in sub-slab vapor (Table 4).
- Continued monitoring at SG-2 and SG-3 based on the concentrations of 1,1,1-TCA detected in sub-slab vapor (Table 4).

5.0 Conclusion and Recommendations

TCE, PCE and 1,1,1-TCA were detected in sub-slab soil vapor points SG-2 and SG-3 during the January 2014 sampling event.

Because PCE and 1,1,1-TCA were not detected in the indoor air samples, and concentrations detected in sub-slab vapor samples were similar to or lower than concentrations detected over the past several years (Table 5), there is no workplace exposure and no risk is present to indoor air from sub-slab PCE and 1,1,1-TCA.

TCE was detected in indoor air samples IA-2 and at IA-3 at concentrations that are below the range of background concentrations of <0.6 to 88.5 µg/m^3 published by EPA (2001). Additionally, both IA-2 and IA-3 are below the OSHA PEL (TWA) for TCE of 537,000 µg/m^3 and the NYSDOH AGV of 0.5 µg/m^3, indicating there is no risk presented with respect to exposure to PCE in the workplace.

Based on the results of the January 2014 vapor intrusion investigation, continued monitoring of PCE and 1,1,1-TCA will be conducted based on the current concentrations (Table 4). Although the concentrations of TCE detected in sub-slab at the SG-2 and SG-3 require no further action based on NYSDOH Decision Matrix 1 (Table 3), TCE is a degradation product of PCE and therefore will continue to be monitored.

The next annual vapor monitoring will be performed in conjunction with the quarterly groundwater sampling event in January 2015. An Indoor Air Quality Questionnaire and Building Inventory will be completed prior to sampling. Two sub-slab vapor samples will be collected from SG-2 and SG-3 as well as two indoor air samples adjacent to these points. In addition, one trip blank will be collected for this group of samples for QA/QC purposes. The samples will be analyzed for VOCs in air via EPA Method TO-15. The results of the January 2015 will be summarized in a report on completion of laboratory analysis and review of results. This report will be submitted to NYSDEC and NYSDOH upon completion.

6.0 References

American Conference of Governmental Industrial Hygienists (ACGIH), 1999. 1999 TLVs and BEIs. Threshold Limit Values for Chemical Substances and Physical Agents. Biological Exposure Indices. Cincinnati, OH.

New York State Department of Health (NYSDOH), 2006. Guidance for Evaluating Vapor Intrusion in the State of New York. October 2006.

NYSDOH, 2005. Summary of Indoor and Outdoor Levels of Volatile Organic Compounds from Fuel Oil Heated Homes in NYS, 1997-2003. Revised November 14, 2005.

NYSDOH, 2006. Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006

United States Environmental Protection Agency (EPA), 2001. Indoor Air Quality in Buildings, Building Assessment and Survey Evaluation (BASE) Study.

Occupational Safety & Health Administration (OSHA), 2006. Permissible Exposure Limit (PEL) 29 CFR 1910.1000 Table Z-1 & Z-2.

FIGURES

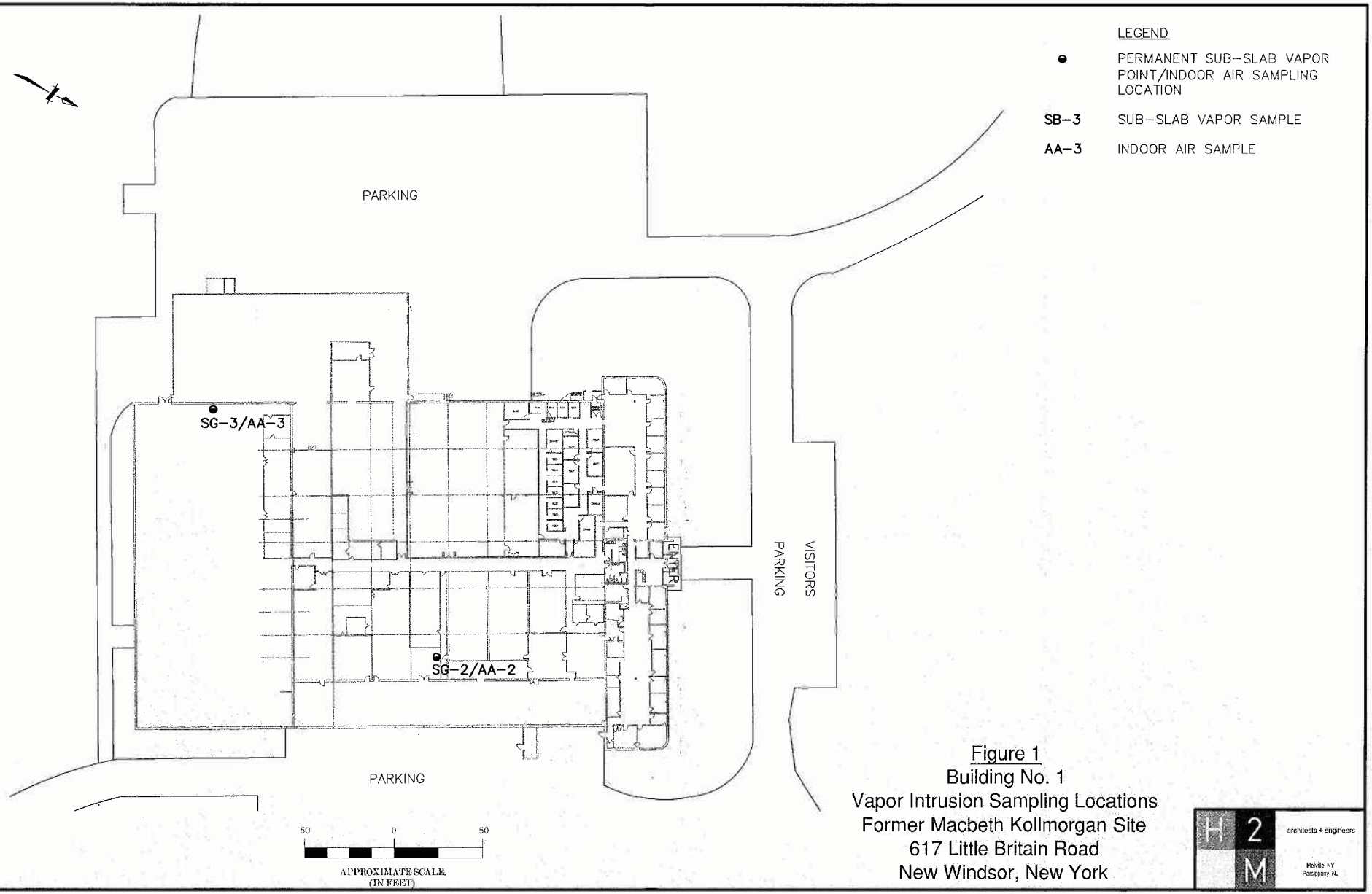

Figure 1
Building No. 1
Vapor Intrusion Sampling Locations
Former Macbeth Kollmorgan Site
617 Little Britain Road
New Windsor, New York

H2M architects + engineers
Melville, NY
Parsippany, NJ

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TABLES

Table 1-1
Chemicals Present Near Sampling Points

CAS Registration Number	Chemical Name
4/9/5281	Lithol Rubine
101-68-8	4,4'-Diphenylmethane diisocyanate
106-97-8	Butane
1103-39-5	Calcium Lithol
1309-37-1	Iron Oxide
1324-76-1	C.I. Pigment Blue 61
1325-68-2	C.I. Pigment Violet 3
1328-53-5	C.I. Pigment Green 7
1333-86-4	Carbon Black
13463-67-7	Titanium Dioxide
138265-88-0	Zinc Borate
141-43-5	Ethanolamine
142-82-5	Heptane
147-14-8	Phthalocyanine Blue
21645-51-2	Aluminum Trihydrate
29911-27-1	Dipropylene Glycol N-Propyl Ether
471-34-1	Calcium Carbonate
5468-75-7	C.I. Pigment Yellow 14
5567-15-7	C.I. Pigment Yellow 83
56-81-5	Glycerin
574-93-6	29H, 31H – Phthal
57-55-6	Propylene Glycol
6041-94-7	C.I. Pigment Red 2
6358-30-1	C.I. Pigment Violet 23
64-02-8	Tetrasodium EDTA
6448-95-9	C.I. Pigment Red 22
64742-49-0	Heptane Isomers
64742-52-5	Petrolium Oil
64743-05-1	Purified Carbon
6505-28-8	C.I. Pigment Orange 16
6655-48-1	C.I. Pigment Red 17
67-64-1	Acetone
7320-34-5	Tetrapotassium Pyrophosphate
74-98-6	Propane
75-28-5	Isobutane
9016-45-9	Nonylphenoxypolyethoxyethanol
9016-87-9	Polymeric Diphenylmethane Diisocyanate
68476-86-8	Liquefied Petroleum Gas
64742-89-8	Aliphatic Hydrocarbon
108-88-3	Toluene
9032-32-4	Naphtha
8052-41-3	Stoddard Solvents

Table 1-1
Chemicals Present Near Sampling Points

CAS Registration Number	Chemical Name
1330-20-7	Pigment Black 7
64742-95-6	Aromatic Hydrocarbon
1332-58-7	Calcined Aluminum Silicate
95-63-6	1,2,4-Trimethylbenzene
100-41-4	Ethylbenzene
14808-60-7	Microcrystalline Silica
122-39-4	Diphenylamine
68649-42-3	Phosphorodithoic Acid
64-17-5	Ethyl Alcohol
67-56-1	Methanol
108-10-1	Methyl isobutly ketone
5989-27-5	Limonene
64742-47-8	Synthetic Isoparaffinic Hydrocarbon
124-38-9	Carbon Dioxide
67-63-0	Isopropyl Alcohol
79-01-6	Trichloroethylene

Table 2
Vapor Intrusion Sampling Results
January 29, 2014
Macbeth - Kollmorgen Corporate Site
New Windsor, New York

					Indoor Air Samples						Sub-Slab Soil Vapor Samples						QA/QC		
Sample ID:	**Table 3.1 NYSDOH Air Guideline Values (AGV)**	**29 CFR 1910.1000 Table Z-1 & Z-2 OSHA 8 hour TWAs**	**Table C.2 EPA 2001 Building Assessment and Survey Evaluation (BASE) Background Level Ranges (Indoor Air)**	**Table C.1 NYSDOH 2003 Study of Volatiles in Air of Fuel Oil Heated Homes (90th Percentile Indoor Air Values)**	**IA-2 Building 1 1/29/2014 MC27979-2**			**IA-3 Building 1 1/29/2014 MC27979-4**			**SG-2 Building 1 1/29/2014 MC27979-1**			**SG-3 Building 1 1/29/2014 MC27979-3**			**TRIP BLANK - 1/29/2014 MC27979-5**		
Location:																			
Date:																			
Lab Sample ID:																			
Units:	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**	**µg/m³**			**µg/m³**			**µg/m³**			**µg/m³**			**µg/m³**		
Volatile Organic Compounds in Air (USEPA TO-15)					**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
1,1,1-Trichloroethane (1,1,1-TCA)	100	1.90E+06	<0.5 - 833.2	3.1	ND		0.44	ND		0.44	**_228_**	a	2.20	**190**		0.44	ND		0.44
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	-	7.60E+06	-	-	ND		0.70	ND		0.70	489	a	3.40	129		0.70	ND		0.70
1,2,4-Trichlorobenzene	-	-	<0.8 - 8.2	3.4	ND		3.70	ND		3.70	ND		3.70	ND		3.70	ND		3.70
1,2,4-Trimethylbenzene	-	-	<0.4 - 91.0	9.5	ND		0.33	ND		0.33	ND		0.33	2.3	J	0.33	ND		0.33
1,3-Hexachlorobutadiene	-	-	-	4.6	ND		4.60	ND		4.60	ND		4.60	ND		4.60	ND		4.60
Acetone	-	2.40E+06	11.6 - 243.7	110	31.4		0.40	18.0		0.40	23		0.40	15		0.40	0.71	J	0.40
Benzene	-	3.19E+03	<0.8 - 63.0	15	1.8		0.29	1.5	J	0.29	0.58	J	0.29	ND		0.29	ND		0.29
Carbon Disulfide	-	6.23E+04	<0.5 - 24.5	-	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Carbon Tetrachloride	-	6.29E+04	<0.5 - 2.1	0.8	ND		0.58	ND		0.58	_2.1_		0.58	ND		0.58	ND		0.58
Cyclohexane	-	1.05E+06	-	8.1	0.048	J	0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28
Chlorobenzene	-	3.50E+05	<0.4 - 1.2	<0.25	ND		0.60	ND		0.60	ND		0.60	ND		0.60	ND		0.60
Chloroform	-	240,000 [c]	<0.3 - 12.1	1.4	ND		0.49	ND		0.49	0.59	J	0.49	ND		0.49	ND		0.49
Chloromethane (Methyl chloride)	-	2.07E+05	<0.7 - 21.8	3.3	ND		0.15	1.20		0.15	0.5	J	0.15	ND		0.15	ND		0.15
Dichlorodifluoromethane	-	4.95E+06	<4.8 - 942.3	15	2.5		0.17	2.3	J	0.17	6.40		0.17	158.0		0.17	ND		0.17
trans-1,2-Dichloroethylene	-	-	-	-	ND		0.28	ND		0.28	0.39	J	0.28	ND		0.28	ND		0.28
Total-1,2-Dichloroethylene	-	7.90E+05	-	-	ND		0.28	ND		0.28	0.39	J	0.28	ND		0.28	ND		0.28
Ethanol	-	1.90E+06	<1.2 - 110	-	84.1	a	1.20	ND		0.24	32.5		0.24	ND		0.24	ND		0.24
Ethylbenzene	-	4.35E+05	<0.9 - 73.6	7.3	ND		0.39	ND		0.39	1.1	J	0.39	ND		0.39	ND		0.39
Ethyl Acetate	-	1.40E+06	<0.6 - 64.2	-	5.4		0.43	ND		0.43	2.3		0.43	ND		0.43	ND		0.43
Heptane	-	2.00E+06	-	90	3.7		0.41	1.9	J	0.41	0.82	J	0.41	ND		0.41	ND		0.41
Hexane	-	1.80E+06	<0.9 - 130	18	0.74		0.32	ND		0.32	0.46	J	0.32	0.42	J	0.32	ND		0.32
Methyl butyl ketone (2-Hexanone)	-	4.10E+05	-	-	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Methyl ethyl ketone (MEK; 2 Butanone)	-	5.90E+05	<1.4 - 55.4	16	4.70		0.44	2.40		0.44	4.40		0.44	ND		0.44	ND		0.44
Methyl isobutyl ketone (Hexone)	-	4.10E+05	<0.7 - 72.5	2.2	3.2		0.41	ND		0.41	1.2	J	0.41	ND		0.41	ND		0.41
Methylene chloride	60	4.34E+04	<1.1 - 1,496.9	22	0.80	J	0.31	0.73	J	0.31	0.8	J	0.31	ND		0.31	ND		0.31
Propylene	-	-	-	-	ND		0.08	ND		0.08	13		0.08	3.6		0.08	ND		0.08
Styrene	-	4.26E+05	<0.6 - 40.0	1.3	ND		0.32	ND		0.32	ND		0.32	ND		0.32	ND		0.32
Tetrachloroethene (PCE)	100	6.78E+05	<0.9 - 65.7	2.9	ND		0.66	ND		0.66	3.3		0.66	_**540**_	a	6.60	ND		0.66
Tetrahydrofuran		5.90E+05	-	3.3	0.82	J	0.41	ND			ND		0.41	ND		0.41	ND		0.41
Toluene	-	7.54E+05	3.5 - 390.3	58	37		0.41	20		0.41	11		0.41	1.50	J	0.41	ND		0.41
Trichloroethene (TCE)	5	5.37E+05	<0.6 - 88.5	0.5	0.054		0.012	0.07		0.012	**4.60**		0.012	0.59		0.012	ND		0.012
Trichlorofluoromethane (TCFM)	-	5.60E+06	<1.7 - 1,015.3	17	5.1		0.49	2.20	J	0.49	20.0		0.49	51		0.49	ND		0.49
Vinyl acetate	-	3.00E+04	-	-	6.7		0.39	4.6		0.39	2.2		0.39	ND		0.39	ND		0.39
meta- and para-Xylenes	-	-	<1.5 - 260.8	12	1.60	J	0.87	ND		0.87	2.7		0.87	1.2		0.87	ND		0.87
ortho-Xylene	-	-	<0.7 - 90.5	7.6	0.69	J	0.48	ND		0.48	0.78	J	0.48	ND		0.48	ND		0.48
Total Xylenes	-	4.35E+05			2.3		0.48	ND		0.48	3.5		0.48	1.2		0.48	ND		0.48

Notes:

1) Table 3.1 - NYSDOH Air Guideline Values only apply to concentrations of volatile chemicals in indoor and outdoor air. Final NYSDOH CEH BEEI Soil Vapor Intrusion Guidance, October 2006
2) Table C.2 US EPA 2001 Building Assessment and Survey Evaluation (BASE) Background Level Ranges. Final NYSDOH CEH BEEI Soil Vapor Intrusion Guidance, October 2006
3) Table C.1 NYSDOH 2003: Study of volatile organic chemicals in air of fuel oil heated homes. Final NYSDOH CEH BEEI Soil Vapor Intrusion Guidance, October 2006
4) OSHA Permissible Exposure Limit (PEL) 29 CFR 1910.1000 Table Z-1 & Z-2 OSHA 8-hour Time-Weighted Averages (TWAs)
5) New York State does not have any standards, criteria or guidance values for concentrations of volatile chemicals in subsurface vapors.

- No value(s) published
Bold - Exceeds the NYSDOH Air Guideline Values
Underline - Above the C-1 90th percentile indoor air values given in NYSDOH 2003 Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes (Indoor Air)
Italics - Above the C.2 EPA 2001 Building Assessment and Survey Evaluation (BASE) Background Levels (Indoor Air)
MDL - Method detection limit
ND - compound not detected above MDL
µg/m3 - micrograms per cubic meter
[c] - Ceiling limit

D - Results for dilution
c - Calibration acceptability criteria exceeded for this analyte
s - Recovery exceeded control limits for this analyte
J - Estimated value
a - Result is from run# 2

Table 3
Comparison of TCE Results to Soil Vapor/Indoor Air Matrix 1
January 29, 2014 Vapor Intrusion Sampling Results
Former Macbeth – Kollmorgen Corporate Site
New Windsor, New York

Matrix 1 (TCE)		Indoor Air Concentration Matrix (µg/m^3)			
Sub-Slab Vapor and Indoor Air Concentrations (µg/m^3)	**Sub-Slab Vapor Concentration Matrix (µg/m^3)**	**<0.25**	**0.25 to < 1**	**1 to <5.0**	**5.0 and above**
TCE: SG-3 = 0.59 IA-3 = 0.07	<5	**No Further Action** **X**	Take reasonable actions to identify source and exposures ——	Take reasonable actions to identify source and exposures —–—	Take reasonable actions to identify source and exposures ——
TCE: SG-2 = 4.6 IA-2 = 0.054	<5	**No Further Action** **X**	Monitor —–—	Monitor —–—	Mitigate ——
	5 to <50	**No Further Action** ——	Monitor —–—	Monitor —–—	Mitigate ——

Notes:
ND – Not detected above MDL
Bold indicates recommended action
D – Results for dilution
U – Below Method Detection Limit
SG – Sub-slab vapor sample
AA – Indoor Air Sample
µg/m^3 – micrograms per cubic meter

No Further Action – Given that the compound was not detected in the indoor air sample and that the concentration in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures (Soil Vapor/Indoor Air Matrix 1, NYSDOH, October, 2006.

Source: NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Soil Vapor/Indoor Air Matrix 1, October, 2006

Table 4
Comparison of PCE and 1,1,1-TCA Results to Soil Vapor/Indoor Air Matrix 2
January 29, 2014 Vapor Intrusion Sampling Results
Former Macbeth – Kollmorgen Corporate Site
New Windsor, New York

Matrix 2 (PCE and 1,1,1-TCA)		Indoor Air Concentration Matrix (µg/m^3)			
Sub-Slab Vapor and Indoor Air Concentrations (µg/m^3)	**Sub-Slab Vapor Concentration Matrix (µg/m^3)**	**<3**	**3 to <30**	**30 to <100**	**100 and above**
PCE: SG-2 = 3.3 IA-2 = ND	<100	**No further action** **X**	Take reasonable actions to identify source and exposures ___	Take reasonable actions to identify source and exposures ___	Take reasonable actions to identify source and exposures ___
PCE: SG-3 = 540 IA-3 = ND	100 to <1,000	**Monitor** **X**	Monitor/Mitigate ___	Mitigate ___	Mitigate ___
1,1,1-TCA: SG-2 = 228 IA-2 = ND	100 to <1,000	**Monitor** **X**	Monitor/Mitigate ___	Mitigate ___	Mitigate ___
1,1,1-TCA: SG-3 = 190 IA-3 = ND	100 to <1,000	**Monitor** **X**	Monitor/Mitigate ___	Mitigate ___	Mitigate ___

Notes: SG = Sub-slab vapor sample; AA = Indoor Air Sample; µg/m^3 = micrograms per cubic meter; U = Below Method Detection Limit; **Bold** = recommended action; D = Results for dilution

No Further Action – Given that the compound was not detected in the indoor air sample and that the concentration in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Monitor - Monitoring, including sub-slab vapor, basement air, lowest occupied living space, and outdoor air sampling, is needed to determine whether concentrations in indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type & frequency of monitoring is determined on a site-specific and building–specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental medial are remediated.

Monitor / MItigate: Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

Take reasonable and practical actions to identify source(s) and reduce exposures - The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and reduce exposures accordingly (e.g., capping containers tightly or by storing volatile organic compound-containing products in places where people do not spend much time, e.g., garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

Source: NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, Soil Vapor/Indoor Air Matrix 2, October 2006.

Table 5
Summary of CVOC Concentrations in Sub-Slab Vapor
2006 to 2014
Macbeth - Kollmorgen Corporate Site
New Windsor, New York

Sample ID	Compound	Table 3.1 NYSDOH Air Guideline Value	CVOC Concentration (December 2006)	CVOC Concentration (February 2008)	CVOC Concentration (February 2009)	CVOC Concentration (January 2010)	CVOC Concentration (January 2011)	CVOC Concentration (January 2012)	CVOC Concentration (January 2013)	CVOC Concentration (January 2014)	Final Concentration / Initial Concentration	Percent (%) Reduction
		µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3		
SG-2	TCE	5	860	8.17	5.27	2.74	8.6	6.45	8.01	4.6	0.0053	99
	PCE	100	8.1	24.3	4.61	3.39	0.814	0.543	17.9	3.3	0.4074	59
	1,1,1-TCA	100	93	29.2	175	131	309	309	222	228	2.4516	-145
	Total Targeted CVOCs	-	961.1	61.67	184.88	137.13	318.41	315.99	247.91	235.90	0.2454	75
SG-3	TCE	5	5.4	< 2.69	3.01	<5.37	1.45	1.13	1.02	0.59	0.1093	89
	PCE	100	6,000	501	448	454	830	558	525	540	0.0900	91
	1,1,1-TCA	100	480	161	222	167	249	116	140	190	0.3958	60
	Total Targeted CVOCs	-	6,485	662	673.01	621	1,080.45	675.13	666.02	730.59	0.1127	89

Notes:
CVOC = Chlorinated volatile organic compounds
TCE = Trichloroethene
PCE = Tetrachloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
µg/m^3 - micrograms per cubic meter
Table 3.1 - NYSDOH Air Guideline Values only apply to concentrations of volatile chemicals in indoor and outdoor air. Final NYSDOH CEH BEEI Soil Vapor Intrusion

APPENDIX A
Indoor Air Quality and Product Inventory Form & MSDS

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Joseph McNanna Date/Time Prepared 1/28/14 14:00

Preparer's Affiliation H2M Associates Inc Phone No. 862-207-5900 X2243

Purpose of Investigation Annual VI & IA Sampling

1. OCCUPANT: Pratt Industries New Windsor, NY

Interviewed: (Y) / N

Last Name: Gimenez First Name: Craig

Address: 617 Little Britain Road New Windsor, NY

County: Orange

Home Phone: _____ Office Phone: 845-565-9300

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: Baratta First Name: Jack

Address: 617 Little Britain Road

County: Orange

Home Phone: _____ Office Phone: 845-565-9300

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial/Multi-use)
(Industrial)	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

N/A

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) Corrugated Mfg.

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 Building age 80

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Airflow near source

Vacuum blowers on manufacturing equipment create negative air pressure / Constant air exchange (Cyclone Blower on Roof)

Outdoor air infiltration

Infiltration into air ducts

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	(Y) / N	Pits are located next to equipment for cleaning machines that pumps to sewers (5 pits)		
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: _____(feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

Some small cracks in Concrete Floor.

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	(Hot water baseboard) (in offices)	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other Gas Roof units (for factory)

The primary type of fuel used is:

(Natural Gas)	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level	General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)
Basement	
1st Floor	Corrugated Manufacturing facility / office Space
2nd Floor	
3rd Floor	
4th Floor	

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? (Y) / N Truck Back up to loading docks

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y (N) When?_____

e. Is a kerosene or unvented gas space heater present? Y (N) Where?_____

f. Is there a workshop or hobby/craft area? (Y) N Where & Type? Work Shop (Maintenance)

g. Is there smoking in the building? Y (N) How frequently?_____

h. Have cleaning products been used recently? (Y) N When & Type? Janitorial

i. Have cosmetic products been used recently? Y (N) When & Type?_____

j. Has painting/staining been done in the last 6 months? (Y) / N Where & When? Lines on Floor (varnish) one week ago

k. Is there new carpet, drapes or other textiles? Y (N) Where & When? _____

l. Have air fresheners been used recently? Y (N) When & Type? _____

m. Is there a kitchen exhaust fan? (Y) / N If yes, where vented? Kitchen

n. Is there a bathroom exhaust fan? (Y) / N If yes, where vented? _____

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? (Y) / N When & Type? Service for mice

Are there odors in the building? Y / N
If yes, please describe: Smelled the Propane Forklifts or trucks Exhaust backed into the dock.

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? Water based INKS used on Cartons Soap to clean Print Plates

If yes, are their clothes washed at work? Hot melt glue ~~Y / N~~ Degreasers and grease

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)	No
Yes, use dry-cleaning infrequently (monthly or less)	Unknown
Yes, work at a dry-cleaning service	

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	(Public Water)	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	(Public Sewer)	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

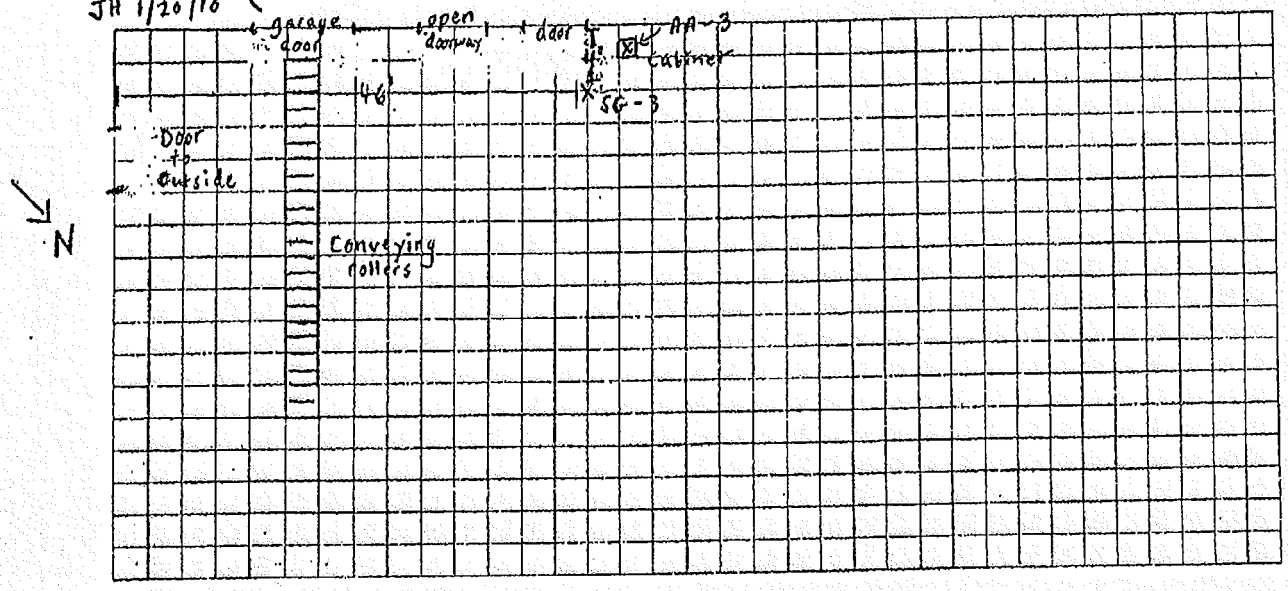
d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note. No. Basement present/ slab on grade

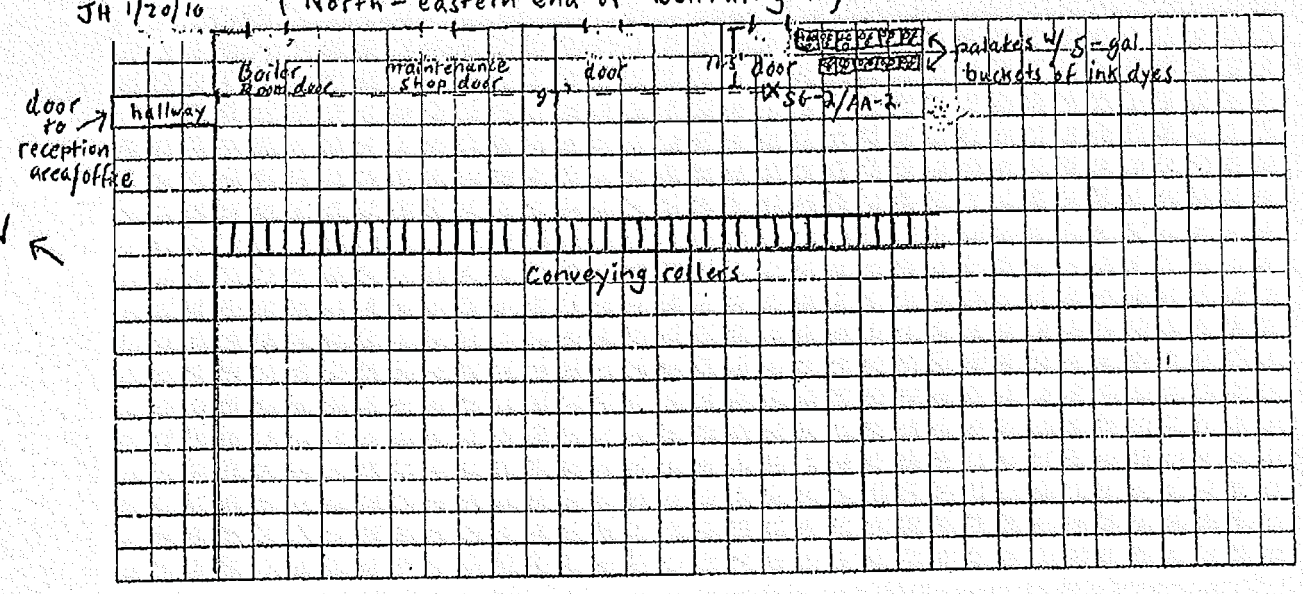
~~Basement:~~ (South-western end of Building 1)

JH 1/20/10



~~First Floor:~~ (North-eastern end of Building 1)

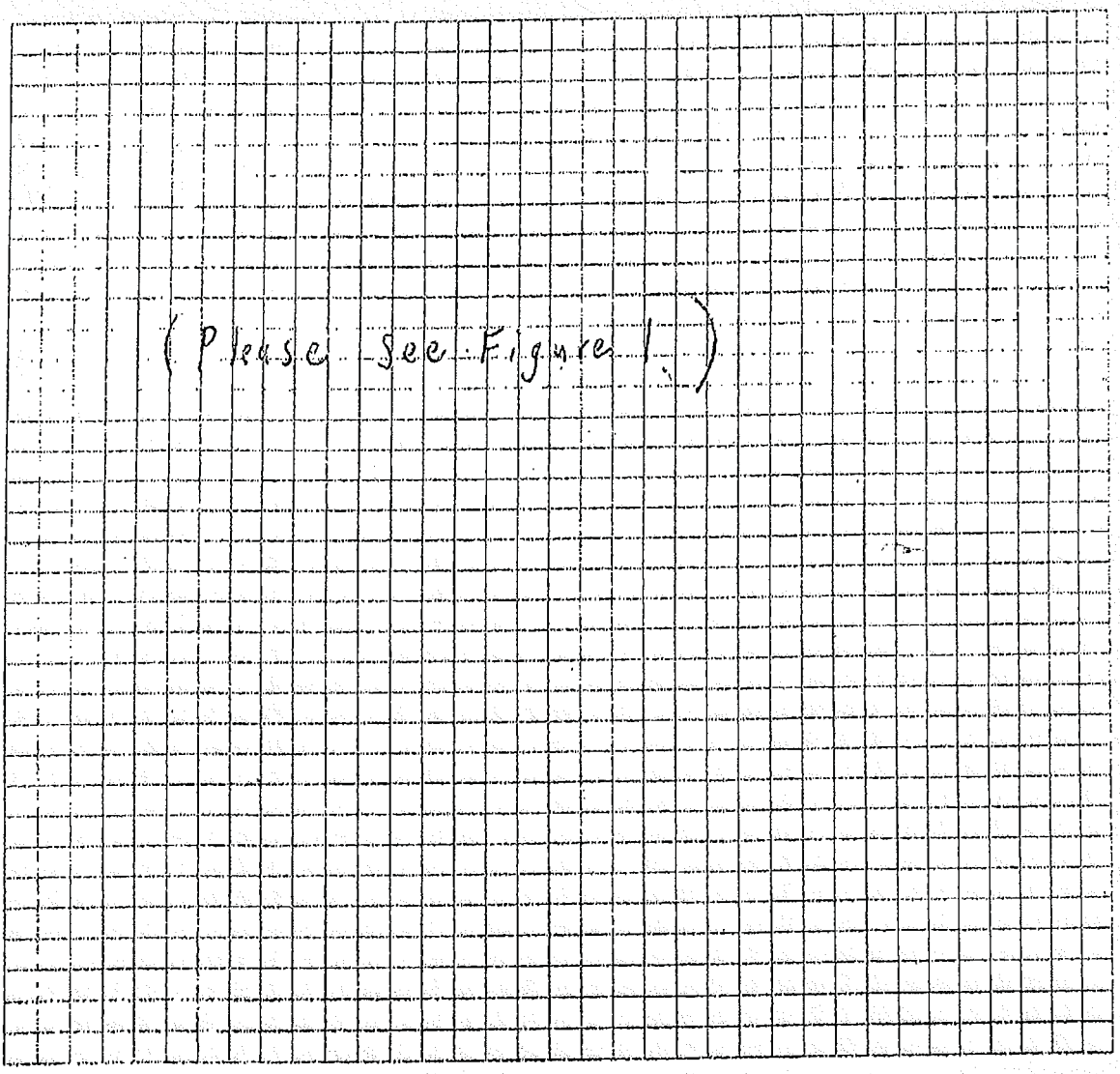
JH 1/20/10



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: Mini RAE 3000

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
40' From SG-2	~~Insta-Pak A~~ INSTA-PAK B	plastic Pail	In use	See MSDS	0	Y
35' From SG-2	Hot melt glue 926 37801	Boxes	Pillows	See MSDS	0	Y
40' From SG-2	3006-1500 Specialty adhesives	Fiber drum	In use	See MSDS	0	Y
75' From SG-2	MB plus TOP Coat ROOF Coating	5 gal Pails	Unused		0	Y
SG-2	Solar Flex Phillips Blue	5 gal Pail	sealed & In use		0	Y
SG-2 SG-3	Solar Flex ph Adjuster	5 gal Pail	sealed		0	Y
SG-3	GCMI 90 BLACK J.M. Fry	5 gal Pail	In use		0	Y
	WD-40	12 oz Can	on Shelf		0	Y
	Slip Plate Chain lube	12.5 oz Can	On-Shelf		0	Y
	White lithium grease	Spray CAN	On-shelf		0	Y
	Scotch Spray Mount	Spray CAN	On-Shelf		0	Y
	Go-Jo hand cleaner	Dispenser	In use		0	Y
Not From SG-3	Neutra Flex OverPrint Varnish	5 gal Can	In use		0	Y
	Solar Flex St. Patricks green	5 gal CAN	On-Shelf In use		0	Y
	Denatured Alcohol	1 gal CAN	On-Shelf		0	Y
	Assorted Colors GCMI 103 Fry Flex	5 gal Can	On-Shelf		0	Y
SG-2	MOBil DTE oil For Bearings	5 gal CAN	On-Shelf		0	Y
SG-2	Rustoleum Stripping Paint	Spray CAN	On-Shelf		0	Y
SG-2	Paint Thinner	1 gal. CAN	On-Shelf		0	Y

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

WASP SPRAY On Shelf 0 Y

Aersolve Spray CAN On Shelf 111 Trichloroethane 0 Y

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: 90995F MSDS
Product Name: FF GCMI 90 BLACK ED VIII

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: FF GCMI 90 BLACK ED VIII

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: MAY CAUSE IRRITATION OR BURNING.

SKIN: MAY DRY AND DEFAT SKIN CAUSING IRRITATION AND DERMATITIS AFTER REPEATED EXPOSURE. OTHER AFFECTS OF ABSORPTION ARE UNKNOWN.

INGESTION: INGESTION CAN CAUSE GASTROINTESTINAL IRRITATION AND NAUSEA. THE EXACT NATURE AND INTENSITY OF TOXIC EFFECTS FOLLOWING INGESTION IS UNKNOWN. SEEK MEDICAL ATTENTION.

INHALATION: VAPORS MAY CAUSE HEADACHE OR NAUSEA IN SENSITIVE INDIVIDUALS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GIVE ONE TO TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS: THIS PRODUCT HAS A PH OF 8.5 TO 9.5.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: >200 DEG F **Method:** PM CC

Product Code: 90995F MSDS
Product Name: FF GCMI 90 BLACK ED VIII

FLAMMABLE LIMITS: (SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: N/A
Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER, WATER FOG.

FIREFIGHTING INSTRUCTIONS: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN TO AVOID INHALATION OF CONCENTRATED VAPORS IN FIRE AREA. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: DIKE TO PREVENT SPREAD USING ABSORBENT MATERIAL OR CHEMICAL DAMS. SCOOP OR PUMP MATERIAL INTO WATER PROOF CONTAINERS FOR DISPOSAL. STAINS MAY BE REMOVED WITH COMMERCIAL STRENGTH SOAP.

7. HANDLING AND STORAGE

HANDLING: HANDLE ACCORDING TO LABEL INSTRUCTIONS.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: NONE NEEDED UNLESS TLV LIMITS ARE EXCEEDED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212 DEG F
MELTING POINT: NOT AVAILABLE.
FREEZING POINT: UNKNOWN
VAPOR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE

Product Code: 90995F MSDS
Product Name: FF GCMI 90 BLACK ED VIII

SPECIFIC GRAVITY: 1.10
VOLATILE ORGANIC COMPOUNDS: 0.06 lb/gl
pH: 8.5-9.5
WEIGHT PER GALLON: 9.20 lb/gl
VOLATILE WEIGHT PERCENT: 78.00%
APPEARANCE: LIQUID, VARIOUS COLORS
ODOR: MILD ACRYLIC ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE. AVOID EXCESSIVE HEAT OR COLD. AVOID EXCESSIVE AGING BEYOND RECOMMENDED SHELF LIFE.

INCOMPATIBILITY: PRODUCT IS NORMALLY UNREACTIVE. STRONG ACIDS MAY CAUSE PRODUCT TO GEL.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: NO AVAILABLE INFORMATION.

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

NOT REGULATED PER U.S. DOT

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	0.60
AMMONIUM HYDROXIDE	1336-21-6	0.30

WARNING: THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
1 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: 115109
Product Name: NF OVERPRINT VARNISH

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: NF OVERPRINT VARNISH

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: MAY CAUSE IRRITATION OR BURNING.

SKIN: MAY DRY AND DEFAT SKIN CAUSING IRRITATION AND DERMATITIS AFTER REPEATED EXPOSURE. OTHER AFFECTS OF ABSORPTION ARE UNKNOWN.

INGESTION: INGESTION CAN CAUSE GASTROINTESTINAL IRRITATION AND NAUSEA. THE EXACT NATURE AND INTENSITY OF TOXIC EFFECTS FOLLOWING INGESTION IS UNKNOWN. SEEK MEDICAL ATTENTION.

INHALATION: VAPORS MAY CAUSE HEADACHE OR NAUSEA IN SENSITIVE INDIVIDUALS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GIVE ONE TO TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS:

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: >200 DEG F Method: PM CC

Product Code: 115109
Product Name: NF OVERPRINT VARNISH

FLAMMABLE LIMITS:(SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: N/A
Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER, WATER FOG.

FIREFIGHTING INSTRUCTIONS: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN TO AVOID INHALATION OF CONCENTRATED VAPORS IN FIRE AREA. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: DIKE TO PREVENT SPREAD USING ABSORBENT MATERIAL OR CHEMICAL DAMS. SCOOP OR PUMP MATERIAL INTO WATER PROOF CONTAINERS FOR DISPOSAL. STAINS MAY BE REMOVED WITH COMMERCIAL STRENGTH SOAP.

7. HANDLING AND STORAGE

HANDLING: HANDLE ACCORDING TO LABEL INSTRUCTIONS.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: NONE NEEDED UNLESS TLV LIMITS ARE EXCEEDED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212 DEG F
MELTING POINT: NOT AVAILABLE.
FREEZING POINT:
VAPOR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE

Product Code: 115109
Product Name: NF OVERPRINT VARNISH

SPECIFIC GRAVITY: 1.03
VOLATILE ORGANIC COMPOUNDS: 0.03 lb/gl
pH: 7.2-8.5
WEIGHT PER GALLON: 8.56 lb/gl
VOLATILE WEIGHT PERCENT: 63.68%
APPEARANCE: COLORLESS LIQUID
ODOR: MILD AMMONIA/ACRYLIC ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE. AVOID EXCESSIVE HEAT OR COLD. AVOID EXCESSIVE AGING BEYOND RECOMMENDED SHELF LIFE.

INCOMPATIBILITY: PRODUCT IS NORMALLY UNREACTIVE. STRONG ACIDS MAY CAUSE PRODUCT TO GEL.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: NO AVAILABLE INFORMATION.

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

NOT REGULATED PER U.S. DOT

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
N/A		

Product Code: 115109
Product Name: NF OVERPRINT VARNISH

WARNING: THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
1 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: M-000028
Product Name: SF PH ADJUSTER(#1000 SOLUTION)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: SF PH ADJUSTER(#1000 SOLUTION)

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	50.00
OSHA PEL: 3 PPM, ACGIH TLV: 3 PPM, OTHER: N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: CAN CAUSE PERMANENT EYE INJURY. SYMPTOMS INCLUDE STINGING, TEARING, REDNESS, AND SWELLING OF EYE. CAN INJURE CORNEA AND CAUSE BLINDNESS.

SKIN: CAN CAUSE PERMANENT SKIN DAMAGE. SYMPTOMS MAY INCLUDE REDNESS, BURNING, AND SWELLING OF THE SKIN, BURNS AND OTHER SKIN DAMAGE. PASSAGE OF THIS MATERIAL INTO THE BODY THROUGH THE SKIN IS POSSIBLE, AND SKIN CONTACT MAY BE HARMFUL.

INGESTION: SWALLOWING THIS MATERIAL MAY BE HARMFUL OR FATAL. SYMPTOMS MAY INCLUDE SEVERE STOMACH AND INTESTINAL IRRITATION, ABDOMINAL PAIN, AND VOMITING OF BLOOD.SWALLOWING THIS MATERIAL MAY CAUSE BURNS AND DESTROY TISSUE IN MOUTH, THROAT, AND DIGESTIVE TRACT. LOW BLOOD PRESSURE AND SHOCK MAY OCCUR AS RESULT OF SEVERE TISSUE INJURY. THIS MATERIAL CAN GET INTO LUNGS DURING SWALLOWING OR VOMITING. THIS RESULTS IN LUNG INFLAMMATION AND OTHER LUNG INJURY.

INHALATION: BREATHING OF VAPOR OR MIST IS POSSIBLE. BREATHING THIS MATERIAL MAY BE HARMFUL OR FATAL. SYMPTOMS MAY INCLUDE SEVERE IRRITATION AND BURNS TO THE NOSE, THROAT, AND RESPIRATORY TRACT. SYMPTOMS USUALLY OCCUR AT AIR CONCENTRATIONS HIGHER THAN THE RECOMMENDED EXPOSURE LIMITS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE LARGE QUANTITIES OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.

Product Code: M-000028
Product Name: SF PH ADJUSTER(#1000 SOLUTION)

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS: THIS MATERIAL IS AN ASPIRATION HAZARD. POTENTIAL DANGER FROM ASPIRATION MUST BE WEIGHED AGAINST POSSIBLE ORAL TOXICITY WHEN DECIDING WHETHER TO INDUCE VOMITING. PREEXISTING DISORDERS OF THE FOLLOWING ORGANS MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL: SKIN, LUNG(FOR EXAMPLE, ASTHMA-LIKE CONDITIONS), LIVER, KIDNEY.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: 185 DEGREES F Method: TCC

FLAMMABLE LIMITS:(SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: 5.5
Upper flammable limit: 17

AUTOIGNITION TEMPERATURE: 770 DEGREES F

HAZARDOUS COMBUSTION PRODUCTS: BURNING MAY PRODUCE AMMONIA, NITROGEN OXIDES, CARBON MONOXIDE, AND CARBON DIOXIDE.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL

FIREFIGHTING INSTRUCTIONS: WEAR A SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WITH APPROPRIATE TURN OUT GEAR AND CHEMICAL RESISTANT PERSONAL PROTECTIVE EQUIPMENT. WATER MUST NOT BE USED ON FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: ELIMINATE ALL SOURCES OF IGNITION SUCH AS FLARES, FLAMES, ELECTRICAL SPARKS. ABSORB LIQUID ON VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL. PERSONS NOT WEARING PROPER PERSONAL PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL. SCOOP OR SCRAPE UP. PUT IN CONTAINER FOR RECOVERY OR DISPOSAL.

7. HANDLING AND STORAGE

HANDLING: CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES(VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN DATA SHEET MUST BE OBSERVED. ALL FIVE-GALLON PAILS AND LARGER CONTAINERS SHOULD BE GROUNDED WHEN MATERIAL IS TRANSFERRED.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. DO NOT STORE IN ALUMINUM CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: A SYSTEM OF LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOSURES BELOW THE AIRBORNE EXPOSURE LIMITS. LOCAL EXHAUST VENTILATION IS GENERALLY PREFERRED BECAUSE IT CAN CONTROL THE EMISSIONS OF CONTAMINANT AT ITS SOURCE,

PREVENTING DISPERSION OF IT INTO GENERAL WORK AREA.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 340 DEGREES F
MELTING POINT: 50.5 DEGREES F
FREEZING POINT: 50.5 DEGREES F
VAPOR PRESSURE: < 1.000 mmHG@ 70 DEGREES F
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE
SPECIFIC GRAVITY: 1.01
VOLATILE ORGANIC COMPOUNDS: 4.20 lb/gl
pH: 10.5-12.2
WEIGHT PER GALLON: 8.40 lb/gl
VOLATILE WEIGHT PERCENT: 100.00%
APPEARANCE: COLORLESS LIQUID
ODOR: AMMONIA ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE

INCOMPATIBILITY: AVOID CONTACT WITH: ALDEHYDES, KETONES, ORGANIC ANHYDRIDES, ORGANIC HALIDES, STRONG ACIDS, STRONG ALKALIES, STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS: BURNING MAY PRODUCE AMMONIA, NITROGEN OXIDES, CARBON DIOXIDE AND CARBON MONOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: DERMAL LD50(RABBIT): 1000mg/kg

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

Product Code: M-000028
Product Name: SF PH ADJUSTER(#1000 SOLUTION)

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

DOT INFORMATION- 49 CFR 172.101, DOT DESCRIPTION: ETHANOLAMINE,8,UN2491,III.

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	50.00-

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
2 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: M-007508
Product Name: FF PREM PLUS GCMI 103 YELLOW (ED.X)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: FF PREM PLUS GCMI 103 YELLOW (ED.X)

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: MAY CAUSE IRRITATION OR BURNING.

SKIN: MAY DRY AND DEFAT SKIN CAUSING IRRITATION AND DERMATITIS AFTER REPEATED EXPOSURE. OTHER AFFECTS OF ABSORPTION ARE UNKNOWN.

INGESTION: INGESTION CAN CAUSE GASTROINTESTINAL IRRITATION AND NAUSEA. THE EXACT NATURE AND INTENSITY OF TOXIC EFFECTS FOLLOWING INGESTION IS UNKNOWN. SEEK MEDICAL ATTENTION.

INHALATION: VAPORS MAY CAUSE HEADACHE OR NAUSEA IN SENSITIVE INDIVIDUALS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GIVE ONE TO TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS: THIS PRODUCT HAS A PH OF 8.5 TO 9.5.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: >200 DEG F Method: PM CC

Product Code: M-007508
Product Name: FF PREM PLUS GCMI 103 YELLOW (ED.X)

FLAMMABLE LIMITS:(SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: N/A
Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER, WATER FOG.

FIREFIGHTING INSTRUCTIONS: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN TO AVOID INHALATION OF CONCENTRATED VAPORS IN FIRE AREA. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: DIKE TO PREVENT SPREAD USING ABSORBENT MATERIAL OR CHEMICAL DAMS. SCOOP OR PUMP MATERIAL INTO WATER PROOF CONTAINERS FOR DISPOSAL. STAINS MAY BE REMOVED WITH COMMERCIAL STRENGTH SOAP.

7. HANDLING AND STORAGE

HANDLING: HANDLE ACCORDING TO LABEL INSTRUCTIONS.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: NONE NEEDED UNLESS TLV LIMITS ARE EXCEEDED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212 DEG F
MELTING POINT: NOT AVAILABLE.
FREEZING POINT: UNKNOWN
VAPOR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE

Product Code: M-007508
Product Name: FF PREM PLUS GCMI 103 YELLOW (ED.X)

SPECIFIC GRAVITY: 1.20
VOLATILE ORGANIC COMPOUNDS: 0.06 lb/gl
pH: 8.5-9.5
WEIGHT PER GALLON: 9.97 lb/gl
VOLATILE WEIGHT PERCENT: 52.71%
APPEARANCE: LIQUID, VARIOUS COLORS
ODOR: MILD ACRYLIC ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE. AVOID EXCESSIVE HEAT OR COLD. AVOID EXCESSIVE AGING BEYOND RECOMMENDED SHELF LIFE.

INCOMPATIBILITY: PRODUCT IS NORMALLY UNREACTIVE. STRONG ACIDS MAY CAUSE PRODUCT TO GEL.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: NO AVAILABLE INFORMATION.

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

NOT REGULATED PER U.S. DOT

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
AMMONIUM HYDROXIDE	1336-21-6	0.68
2-BUTOXYETHANOL (GLYCOL ETHER EB)	111-76-2	0.21

Product Code: M-007508
Product Name: FF PREM PLUS GCMI 103 YELLOW (ED.X)

2-(2-ETHOXYETHOXY)-ETHANOL	111-90-0	0.20
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	0.01

WARNING: THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
1 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: M-009022
Product Name: SF ST. PATRICK'S GREEN

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: SF ST. PATRICK'S GREEN

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: MAY CAUSE IRRITATION OR BURNING.

SKIN: MAY DRY AND DEFAT SKIN CAUSING IRRITATION AND DERMATITIS AFTER REPEATED EXPOSURE. OTHER AFFECTS OF ABSORPTION ARE UNKNOWN.

INGESTION: INGESTION CAN CAUSE GASTROINTESTINAL IRRITATION AND NAUSEA. THE EXACT NATURE AND INTENSITY OF TOXIC EFFECTS FOLLOWING INGESTION IS UNKNOWN. SEEK MEDICAL ATTENTION.

INHALATION: VAPORS MAY CAUSE HEADACHE OR NAUSEA IN SENSITIVE INDIVIDUALS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GIVE ONE TO TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS: THIS PRODUCT HAS A PH OF 8.5 TO 9.5.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: >200 DEG F Method: PM CC

Product Code: M-009022
Product Name: SF ST. PATRICK'S GREEN

FLAMMABLE LIMITS:(SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: N/A
Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER, WATER FOG.

FIREFIGHTING INSTRUCTIONS: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN TO AVOID INHALATION OF CONCENTRATED VAPORS IN FIRE AREA. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: DIKE TO PREVENT SPREAD USING ABSORBENT MATERIAL OR CHEMICAL DAMS. SCOOP OR PUMP MATERIAL INTO WATER PROOF CONTAINERS FOR DISPOSAL. STAINS MAY BE REMOVED WITH COMMERCIAL STRENGTH SOAP.

7. HANDLING AND STORAGE

HANDLING: HANDLE ACCORDING TO LABEL INSTRUCTIONS.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: NONE NEEDED UNLESS TLV LIMITS ARE EXCEEDED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212 DEG F
MELTING POINT: NOT AVAILABLE.
FREEZING POINT: UNKNOWN
VAPOR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE

Product Code: M-009022
Product Name: SF ST. PATRICK'S GREEN

SPECIFIC GRAVITY: 1.37
VOLATILE ORGANIC COMPOUNDS: 0.08 lb/gl
pH: 8.5-9.5
WEIGHT PER GALLON: 11.41 lb/gl
VOLATILE WEIGHT PERCENT: 44.79%
APPEARANCE: LIQUID, VARIOUS COLORS
ODOR: MILD ACRYLIC ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE. AVOID EXCESSIVE HEAT OR COLD. AVOID EXCESSIVE AGING BEYOND RECOMMENDED SHELF LIFE.

INCOMPATIBILITY: PRODUCT IS NORMALLY UNREACTIVE. STRONG ACIDS MAY CAUSE PRODUCT TO GEL.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: NO AVAILABLE INFORMATION.

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

NOT REGULATED PER U.S. DOT

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
AMMONIUM HYDROXIDE	1336-21-6	0.42
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	0.28

Product Code: M-009022
Product Name: SF ST. PATRICK'S GREEN

2-BUTOXYETHANOL (GLYCOL ETHER EB)	111-76-2	0.20
2-(2-ETHOXYETHOXY)-ETHANOL	111-90-0	0.12

WARNING: THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
1 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: M-007506
Product Name: FF PREM PLUS GCMI 21 GREEN (ED.X)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: FF PREM PLUS GCMI 21 GREEN (ED.X)

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: MAY CAUSE IRRITATION OR BURNING.

SKIN: MAY DRY AND DEFAT SKIN CAUSING IRRITATION AND DERMATITIS AFTER REPEATED EXPOSURE. OTHER AFFECTS OF ABSORPTION ARE UNKNOWN.

INGESTION: INGESTION CAN CAUSE GASTROINTESTINAL IRRITATION AND NAUSEA. THE EXACT NATURE AND INTENSITY OF TOXIC EFFECTS FOLLOWING INGESTION IS UNKNOWN. SEEK MEDICAL ATTENTION.

INHALATION: VAPORS MAY CAUSE HEADACHE OR NAUSEA IN SENSITIVE INDIVIDUALS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GIVE ONE TO TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS: THIS PRODUCT HAS A PH OF 8.5 TO 9.5.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: >200 DEG F Method: PM CC

Product Code: M-007506
Product Name: FF PREM PLUS GCMI 21 GREEN (ED.X)

FLAMMABLE LIMITS:(SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: N/A
Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER, WATER FOG.

FIREFIGHTING INSTRUCTIONS: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN TO AVOID INHALATION OF CONCENTRATED VAPORS IN FIRE AREA. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: DIKE TO PREVENT SPREAD USING ABSORBENT MATERIAL OR CHEMICAL DAMS. SCOOP OR PUMP MATERIAL INTO WATER PROOF CONTAINERS FOR DISPOSAL. STAINS MAY BE REMOVED WITH COMMERCIAL STRENGTH SOAP.

7. HANDLING AND STORAGE

HANDLING: HANDLE ACCORDING TO LABEL INSTRUCTIONS.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: NONE NEEDED UNLESS TLV LIMITS ARE EXCEEDED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212 DEG F
MELTING POINT: NOT AVAILABLE.
FREEZING POINT: UNKNOWN
VAPOR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE

Product Code: M-007506
Product Name: FF PREM PLUS GCMI 21 GREEN (ED.X)

SPECIFIC GRAVITY: 1.21
VOLATILE ORGANIC COMPOUNDS: 0.06 lb/gl
pH: 8.5-9.5
WEIGHT PER GALLON: 10.05 lb/gl
VOLATILE WEIGHT PERCENT: 51.39%
APPEARANCE: LIQUID, VARIOUS COLORS
ODOR: MILD ACRYLIC ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE. AVOID EXCESSIVE HEAT OR COLD. AVOID EXCESSIVE AGING BEYOND RECOMMENDED SHELF LIFE.

INCOMPATIBILITY: PRODUCT IS NORMALLY UNREACTIVE. STRONG ACIDS MAY CAUSE PRODUCT TO GEL.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: NO AVAILABLE INFORMATION.

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

NOT REGULATED PER U.S. DOT

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
AMMONIUM HYDROXIDE	1336-21-6	0.68
2-BUTOXYETHANOL (GLYCOL ETHER EB)	111-76-2	0.23

Product Code: M-007506
Product Name: FF PREM PLUS GCMI 21 GREEN (ED.X)

2-(2-ETHOXYETHOXY)-ETHANOL	111-90-0	0.20
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	0.01

WARNING: THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
1 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

M A T E R I A L S A F E T Y D A T A S H E E T

Product Code: M-009025
Product Name: SF PHILLIPS BLUE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product: SF PHILLIPS BLUE

The J.M. Fry Company
4329 Eubank Road, Richmond, VA 23231
Information Phone: 804-236-8100

24-HR EMERGENCY PHONE: CHEMTREC 1-800-262-8200

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Component/Exposure Limits	CAS#	Weight %
N/A		

3. HAZARDS IDENTIFICATION

Potential Health Effects

EYES: MAY CAUSE IRRITATION OR BURNING.

SKIN: MAY DRY AND DEFAT SKIN CAUSING IRRITATION AND DERMATITIS AFTER REPEATED EXPOSURE. OTHER AFFECTS OF ABSORPTION ARE UNKNOWN.

INGESTION: INGESTION CAN CAUSE GASTROINTESTINAL IRRITATION AND NAUSEA. THE EXACT NATURE AND INTENSITY OF TOXIC EFFECTS FOLLOWING INGESTION IS UNKNOWN. SEEK MEDICAL ATTENTION.

INHALATION: VAPORS MAY CAUSE HEADACHE OR NAUSEA IN SENSITIVE INDIVIDUALS.

4. FIRST AID MEASURES

EYES: FLUSH WITH WATER OR EYE WASH SOLUTION, INCLUDING UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. CONTACT A PHYSICIAN IMMEDIATELY.

SKIN: REMOVE CONTAMINATED CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GIVE ONE TO TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. TREAT SYMPTOMATICALLY.

INHALATION: REMOVE TO FRESH AIR. RESTORE OR SUPPORT BREATHING. CONTACT A PHYSICIAN IF BREATHING DIFFICULTIES OCCUR.

NOTE TO PHYSICIANS: THIS PRODUCT HAS A PH OF 8.5 TO 9.5.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:
Flash Point: >200 DEG F Method: PM CC

Product Code: M-009025
Product Name: SF PHILLIPS BLUE

FLAMMABLE LIMITS:(SOLVENT PORTION ONLY, IF APPLICABLE)
Lower flammable limit: N/A
Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: UNKNOWN

HAZARDOUS COMBUSTION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER, WATER FOG.

FIREFIGHTING INSTRUCTIONS: SELF-CONTAINED BREATHING APPARATUS SHOULD BE WORN TO AVOID INHALATION OF CONCENTRATED VAPORS IN FIRE AREA. USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: DIKE TO PREVENT SPREAD USING ABSORBENT MATERIAL OR CHEMICAL DAMS. SCOOP OR PUMP MATERIAL INTO WATER PROOF CONTAINERS FOR DISPOSAL. STAINS MAY BE REMOVED WITH COMMERCIAL STRENGTH SOAP.

7. HANDLING AND STORAGE

HANDLING: HANDLE ACCORDING TO LABEL INSTRUCTIONS.

STORAGE: THIS PRODUCT HAS BEEN DESIGNED AND PACKAGED FOR INDUSTRIAL USE ONLY! STORE AWAY FROM EXCESSIVE HEAT, COLD OR FREEZING TEMPERATURES. DO NOT TRANSFER TO UNMARKED CONTAINERS. ROTATE STOCK. KEEP CONTAINERS CLOSED WHEN NOT IN USE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: NONE NEEDED UNLESS TLV LIMITS ARE EXCEEDED.

RESPIRATORY PROTECTION: NOT NORMALLY REQUIRED WITH ADEQUATE VENTILATION. IF TLV IS EXCEEDED FOR AIRBORNE MISTS, USE NIOSH APPROVED RESPIRATOR OR SELF CONTAINED BREATHING APPARATUS.

SKIN PROTECTION: CHEMICAL-RESISTANT GLOVES, APRONS, AND COVERALLS RECOMMENDED WHEN MIXING, FILLING, POURING OR CLEANING EQUIPMENT.

EYE PROTECTION: PROTECTIVE GLASSES OR CHEMICAL-RESISTANT SPLASH GOGGLES RECOMMENDED WHEN HANDLING. MAINTAIN EYE WASH FACILITIES IN WORK AREA.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: > 212 DEG F
MELTING POINT: NOT AVAILABLE.
FREEZING POINT: UNKNOWN
VAPOR PRESSURE: NOT AVAILABLE.
VAPOR DENSITY: HEAVIER THAN AIR
SOLUBILITY IN WATER: COMPLETE

Product Code: M-009025
Product Name: SF PHILLIPS BLUE

SPECIFIC GRAVITY: 1.34
VOLATILE ORGANIC COMPOUNDS: 0.09 lb/gl
pH: 8.5-9.5
WEIGHT PER GALLON: 11.16 lb/gl
VOLATILE WEIGHT PERCENT: 45.10%
APPEARANCE: LIQUID, VARIOUS COLORS
ODOR: MILD ACRYLIC ODOR

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY (CONDITIONS TO AVOID): STABLE UNDER NORMAL CONDITIONS OF USE. AVOID EXCESSIVE HEAT OR COLD. AVOID EXCESSIVE AGING BEYOND RECOMMENDED SHELF LIFE.

INCOMPATIBILITY: PRODUCT IS NORMALLY UNREACTIVE. STRONG ACIDS MAY CAUSE PRODUCT TO GEL.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY PRODUCE FUMES WHEN HEATED. FUMES WILL CONTAIN CARBON MONOXIDE, CARBON DIOXIDE AND VARIOUS OTHER DECOMPOSITION PRODUCTS. ALL DECOMPOSITION PRODUCTS ARE NOT KNOWN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

EYE: NO AVAILABLE INFORMATION.

SKIN: NO AVAILABLE INFORMATION.

ORAL: NO AVAILABLE INFORMATION

CHRONIC/CARCINOGENICITY: INFORMATION OBTAINED FROM OUR SUPPLIERS INDICATES THIS PRODUCT IS NOT RATED AS CARCINOGENIC UNDER NORMALLY EXPECTED CONDITIONS OF HANDLING AND USE.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: NO AVAILABLE INFORMATION.

13. DISPOSAL CONSIDERATIONS

DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

14. TRANSPORT INFORMATION (Not all-inclusive)

NOT REGULATED PER U.S. DOT

15. REGULATORY INFORMATION (Not all-inclusive - Selected regulations represented)

SARA 312, SARA 313, and HAP Components:	CAS#	% BY WT.
AMMONIUM HYDROXIDE	1336-21-6	0.39
ETHANOLAMINE (SKIN AND EYE IRRITANT)	141-43-5	0.31

Product Code: M-009025
Product Name: SF PHILLIPS BLUE

2-BUTOXYETHANOL (GLYCOL ETHER EB)	111-76-2	0.23
2-(2-ETHOXYETHOXY)-ETHANOL	111-90-0	0.12

WARNING: THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

N/A

16. OTHER INFORMATION

HMIS CODES: H F R P
1 1 0 B

THE INFORMATION CONTAINED HEREIN IS ACCURATE TO THE BEST OF OUR KNOWLEDGE AND BELIEF. HOWEVER, SINCE CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, WE MAKE NO GUARANTEE OF RESULTS AND ASSUME NO LIABILITY FOR DAMAGES INCURRED BY USE OF THIS MATERIAL. FINAL DETERMINATION FOR SAFE USE OF THIS PRODUCT IS THE SOLE RESPONSIBLILITY OF THE USER. THE ABOVE DATA IS CONFIDENTIAL, PROPRIETARY INFORMATION OF THE J.M. FRY COMPANY AND IS BEING TRANSMITTED TO ASSIST IN IMPROVING EMPLOYEE OR PUBLIC SAFETY AND HEALTH OR FOR GOVERNMENTAL AGENCY DATA COLLECTION PURPOSES ONLY.

Specialty Adhesives & Coatings, Inc.

P.O. BOX 18445, Memphis, TN 38181 – 3777 Air Park, Memphis, TN 38118
TELEPHONE: 901-794-8556

24-HOUR EMERGENCY CONTACT NUMBER: 1-800-728-9171

MATERIAL SAFETY DATA SHEET
HOT MELT ADHESIVES

SECTION I

PRODUCT CLASS: Hot Melt Adhesives
MANUFACTURER'S CODES: HM 962

SECTION II - HAZARDOUS INGREDIENTS

NONE
NON-HAZARDOUS INGREDIENTS – 0 – 100%

SECTION III - PHYSICAL DATA

BOILING POINT - N/A
VAPOR PRESSURE - N/A
VAPOR DENSITY - N/A
SPECIFIC GRAVITY – 0.92
MELTING POINT - 190 – 230
EVAPORATION RATE - N/A
SOLUBILITY IN WATER - INSOLUBLE
APPEARANCE AND ODOR - AMBER AND LOW ODOR

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY - NON FLAMMABLE
FLASH POINT - 450F
EXTINGUISHING MEDIA - CO_2

SPECIAL FIRE FIGHTING PROCEDURES - NONE
UNUSUAL FIRE AND EXPLOSION HAZARDS - NONE

(901) 794-8556 ~ 800-728-9171 ~ Fax (901) 794-9175
Memphis, TN 38118 ~ P. O. Box 18445 ~ Memphis, TN 38181-0445
3334 North Pitcher ~ Kalamazoo, MI 49004
1116 N. Great SW Parkway B ~ Grand Prairie, TX 75050
117 Industrial Dr. ~ St. Mary's, GA 31558

SECTION V - HEALTH HAZARD DATA

MAIN ROUTE OF ENTRY - INHALATION
TARGET ORGANS - SKIN COULD BE SEVERELY DAMAGED FROM CONTACT WITH MOLTEN MATERIAL.
HEALTH HAZARDS (ACUTE AND CHRONIC) - NONE

FIRST AID:
COOL AFFECTED AREA IMMEDIATELY, OBTAIN MEDICAL ASSISTANCE. DO NOT ATTEMPT TO REMOVE COOLED ADHESIVE FROM AFFECTED SKIN AS SEVERE DAMAGE COULD RESULT.

SECTION VI - REACTIVITY DATA

STABILITY - STABLE
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS - CARBON MONOXIDE
CONDITIONS TO AVOID - TEMPERATURES OVER 400F MAY CAUSE RESIN DEGRADATION
HAZARDOUS POLYMERIZATION - CANNOT OCCUR

SECTION VII - SPILL OR LEAK PROCEDURES

SPILL - SWEEP UP MATERIAL, ALLOW MOLTEN SPILLS TO COOL BEFORE SCRAPING UP AND DISPOSING.
WASTE DISPOSAL METHOD - IN ACCORDANCE WITH LOCAL REGULATIONS

SECTION VIII - PROTECTIVE EQUIPMENT TO BE USED

VENTILATION - YES. DO NOT USE IN CONFINED SPACES.
PROTECTIVE GLOVES - YES
EYE PROTECTION - YES

SECTION IX - PRECAUTIONS OR OTHER COMMENTS

STORAGE AND HANDLING - STORE IN COOL DRY PLACE, OPTIMUM TEMPERATURE 70 F.

SECTION X - OTHER COMMENTS

NFPA Hazard Classification
Health: 1 Flammability: 1 Reactivity: 0 Special Hazards: None

Material Safety Data Sheet

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company **Address:** 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 –0607 **Telephone:** **Emergency only:** 1-888-324-7596 (PROSAR) **Information:** 1-888-324-7596 **Chemical Spills:** 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)	**Chemical Name:** Organic Mixture **Trade Name:** WD-40 Aerosol **Product Use:** Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion **MSDS Date Of Preparation:** 6/8/12

2 – Hazards Identification

Emergency Overview:
DANGER! Flammable aerosol. Contents under pressure. Harmful or fatal if swallowed. If swallowed, may be aspirated and cause lung damage. May cause eye irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:
Yes No X

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8	45-50
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	<25
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Non-Hazardous Ingredients	Mixture	<10

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 – Fire Fighting Measures

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.
Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.
Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA, 10 mg/m3 STEL ACGIH TLV 5 mg/m3 TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product
Engineering Controls: Use in a well-ventilated area.
Personal Protection:
Eye Protection: Avoid eye contact. Always spray away from your face.
Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.
Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended
Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.
Personal Protection:
Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.
Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.
Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.8 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	412 grams/liter (49.5%)
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid/mild odor
Flash Point:	122°F (49°C) Tag Open Cup (concentrate)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Kinematic Viscosity:	2.79-2.96cSt @ 100°F

10 – Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatibilities: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard. None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: Consumer Commodity, ORM-D
After 1/1/2014 UN1950, Aerosols, 2.1 Ltd. Qty (Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1 NOTE: WD-40 does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.
Canadian WHMIS Classification: Class B-5 (Flammable Aerosol)
This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

SIGNATURE: _____ TITLE: Adm. Scientific Manager

REVISION DATE: June 2012 SUPERSEDES: March 2010

GAF

GAF
Safety Data Sheet
SDS # 1049
SDS Date: September 2013

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:	TOPCOAT® MB Plus
TRADE NAME:	N/A
CHEMICAL NAME / SYNONYM:	N/A
CHEMICAL FAMILY:	N/A
MANUFACTURER:	GAF
ADDRESS:	1361 Alps Road, Wayne, NJ 07470
24-HOUR EMERGENCY PHONE (CHEMTREC):	800 – 424 – 9300
INFORMATION ONLY:	800 – 766 – 3411
PREPARED BY:	Corporate EHS
APPROVED BY:	Corporate EHS

SECTION 2: HAZARDS IDENTIFICATION

NFPA and HMIS RATINGS:

	NFPA Hazard Rating		HMIS Hazard Rating
Health	2	Health	2
Flammable	0	Flammable	0
Reactive	0	Reactive	0
Special Hazards	-	Personal Protection	X

GHS LABEL ELEMENTS:

GHS CLASSIFICATION:

Eye Irritant - Category 2A
Skin Irritant - Category 2
Carcinogenicity - Category 2
Target Organ (SE) - Category 3
Target Organ (RE) - Category 1
Hazardous to the Aquatic Environment (chronic) - Category 4

GHS PICTOGRAMS:

SIGNAL WORD: Danger

HAZARD STATEMENTS:

Flammable liquid and vapor
Harmful if inhaled
May cuase respiratory irritation
May cause damage to organs through prolonged or repeated exposure
Causes skin irritation
Causes severe eye irritation
Suspected of causing cancer
May be toxic to aquatic life with long lasting effects

ADDITIONAL HAZARD IDENTIFICAITON INFORMATION:

PRIMARY ROUTE OF EXPOSURE: Inhalation, Skin Contact, Eye Contact

SIGNS & SYMPTOMS OF EXPOSURE

EYES: Exposure to vapors can cause irritation to the eyes.

SKIN: Slight irritation of the skin. Prolonged contact can cause reddening of the skin.

INGESTION: Not expected to be ingested.

INHALATION: Vapors or mists can cause mental sluggishness, irritation of nasal passages, throat and lungs. Can cause headaches.

ACUTE HEALTH HAZARDS: Excessive exposure can cause pulmonary edema.

CHRONIC HEALTH HAZARDS: None known.

CARCINOGENICITY: IARC has determined that occupational exposure to Titanium Dioxide is possibly carcinogenic to humans (Group 2B). IARC concluded lung tumors were observed in rats following high dose exposure by inhalation and in female rats exposed by intra-tracheal instillation. Other studies have shown no tumors in rats following inhalation exposure and no tumors in mice or rats following oral exposure.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

			OCCUPATIONAL EXPOSURE LIMITS		
CHEMICAL NAME	CAS #	% (BY WT)	OSHA	ACGIH	OTHER
Aluminum Trihydrate	21645-51-2	25 – 35	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp., 10 mg/m3 – total

Titanium Dioxide	13463-67-7	2 – 10	15 mg/m3 – total	10 mg/m3 – total	REL: lowest feasible concentration
Zinc Borate	138265-88-0	2 – 10	5 mg/m3 – resp. 15 mg/m3 – total	3 mg/m3 – resp. 10 mg/m3 – total	REL: 5 mg/m3 – resp., 10 mg/m3 – total
Non-hazardous ingredients	-	50 – 60			

NE = Not Established

SECTION 4: FIRST AID MEASRURES

FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes. If irritation persists, call a physician.

SKIN: Wash contaminated skin with soap and water.

INHALATION: Remove patient to an area that has fresh air. If breathing has stopped, administer artificial respiration. Contact physician immediately.

INGESTION: If patient is awake, induce vomiting by giving 2 glasses of water and pressing down at back of throat. Call physician immediately. Never give anything by mouth to an unconscious person.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: None known.

SECTION 5: FIRE FIGHTING PROCEDURES

SUITABLE EXTINGUISHING MEDIA: Water spray, CO_2, dry chemical or foam.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide and carbon monoxide.

RECOMMENDED FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus recommended.

UNUSUAL FIRE & EXPLOSION HAZARDS: None known.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Dam up area to prevent spreading. Caution – area will be slippery. Use absorbent material to dry up the compound. Provide ventilation in closed areas.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store in a well ventilated area at 50 – 80 °F.

OTHER PRECAUTIONS: Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS / VENTILATION: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure limits.

RESPIRATORY PROTECTION: Use NIOSH-approved respirator.

EYE PROTECTION: Safety goggles or safety glasses with side shields.

SKIN PROTECTION: Wear appropriate impermeable gloves and protective clothing as necessary to prevent skin contact.

OTHER PROTECTIVE EQUIPMENT: N/A

WORK HYGIENIC PRACTICES: Wash exposed skin prior to eating, drinking, or smoking and at the end of each shift.

EXPOSURE GUIDELINES: N/A

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE & ODOR:	Heavy white liquid with ammonia odor.		
FLASH POINT:	> 240 °F	**LOWER EXPLOSIVE LIMIT:**	No data
METHOD USED:	TCC	**UPPER EXPLOSIVE LIMIT:**	No data
EVAPORATION RATE:	1.0	**BOILING POINT:**	212 °F
pH (undiluted product):	No data	**MELTING POINT:**	No data
SOLUBILITY IN WATER:	Dilutable in water	**SPECIFIC GRAVITY:**	1.32
VAPOR DENSITY:	No data	**PERCENT VOLATILE:**	No data
VAPOR PRESSURE:	No data	**MOLECULAR WEIGHT:**	No data
VOC WITH WATER (LBS/GAL):	No data	**WITHOUT WATER (LBS/GAL):**	No data

SECTION 10: STABILITY AND REACTIVITY

THERMAL STABILITY:	**STABLE X**	**UNSTABLE ☐**
CONDITIONS TO AVOID (STABILITY):	None known.	
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong oxidizing agents.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Carbon monoxide and carbon dioxide.	
HAZARDOUS POLYMERIZATION:	Will not occur.	

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No information available.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal.

RCRA HAZARD CLASS: None

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT TRANSPORTATION

PROPER SHIPPING NAME: This product is not classified as a hazardous material for transport.

HAZARD CLASS:	N/A
ID NUMBER:	N/A
PACKING GROUP:	N/A
LABEL STATEMENT:	N/A
OTHER:	N/A

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: This product and its components are listed on the TSCA 8(b) inventory.

CERCLA: None

SARA

311/312 HAZARD CATEGORIES: Acute Health Hazard

313 REPORTABLE INGREDIENTS: None

CALIFORNIA PROPOSITION 65: None

Other state regulations may apply. Check individual state requirements. The following components appear on one or more of the following state hazardous substances lists:

Chemical Name	CAS #	CA	MA	MN	NJ	PA	RI
Aluminum Trihydrate	21645-51-2	No	No	No	No	No	No
Titanium Dioxide	13463-67-7	No	No	Yes	Yes	Yes	Yes
Zinc Borate	138265-88-0	Yes	Yes	Yes	Yes	No	No

SECTION 16: OTHER INFORMATION

ADDITIONAL COMMENTS: None

DATE OF PREVIOUS SDS: December 2008

CHANGES SINCE PREVIOUS SDS: GHS formatting changes.

This information relates to the specific material designated and may not be valid for such material used on combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, expressed or implied, is made as to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license of valid patents.

SUPERIOR GRAPHITE

1. Chemical Product and Company Identification

Chemical Name: SLIP Plate Chain & Cable Aerosol
Manufacturer: Superior Graphite
Address: 10 S. Riverside Plaza
Chicago IL 60606
Information Number: (312) 559-2999

2. Composition/Information on Ingredients

Hazardous Components	CAS#	OSHA PEL	ACGIH TLV	Other Limits	%
Petroleum Oil (mist)	64742-52-5	5 mg/m3	5 mg/m3	None	<70
Purified Carbon (as total dust) (as respirable dust)	64743-05-1	15 mg/m3 5 mg/m3	10 mg/m3 3 mg/m3	None	<10
Heptane	142-82-5	500 ppm	400 ppm	None	<20
Acetone	67-64-1	750 ppm	750 ppm	None	<10
Butane	106-97-8	800 ppm	800 ppm	None	<6
Propane	74-98-6	1000 ppm	1000 ppm	None	<6

Notes:

3. Hazards Identification

Route (s) of Entry:	Inhalation	Skin	Ingestion
	Yes	Yes	Yes

Health Hazards (acute and chronic): Eye, skin and respiratory system irritant. Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain, peripheral nervous system, and other internal organ damage. There is no reported human evidence that these effects occur when exposure is maintained below OSHA and ACGIH limits.

Carcinogenicity:	NTP	IARC Monographs	OSHA Regulated
	No	No	No

Notes:

Signs and Symptoms of Exposure:

Inhalation: Respiratory irritation, dizziness, headache, nausea, fatigue, drowsiness, impaired coordination, central nervous system depression or heart arrhythmia.
Skin: Contact may dry the skin prolonged contact may cause irritation. Can not be easily absorbed through the skin. Solvent action can dry and de-fat the skin causing skin to crack, leading to dermatitis.
Eyes: Liquid or vapor can cause moderate to severe irritation.
Ingestion: Not a likely route of exposure.

Medical Conditions Generally Aggravated by Exposure: None known.

4. First Aid Measures

Eyes:Flush thoroughly with water for 15 minutes. Get medical attention.
Skin:Wash exposed skin with soap and water. If irritation persists get medical attention. Launder severely contaminated clothing before reuse.
Ingestion:Do not induce vomiting. Get medical attention.
Inhalation:Remove to fresh air. Administer oxygen if needed. Apply artificial respiration if breathing has stopped. Get medical attention.

5. Fire Fighting Measures

Flash Point: (method) N/A	Flammable Limits:	LEL:	UEL:
		N/D	N/D

Extinguishing Media: Dry chemical, foam, CO2 and water fog.
Special Fire Fighting Procedures: Use water to cool containers exposed to flames. Do not enter enclosed or a confined work space without proper protective equipment. Fire fighting personnel should wear respiratory protection (positive pressure if available).
Unusual Fire and Explosion Hazards: Closed containers may explode from internal pressure build-up when exposed to extreme heat and discharge contents. Vapor accumulation can travel along the ground to a distant source of ignition and flash back or explode if ignited. Overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent.

NFPA Hazard Rating:

Health	Flammability	Reactivity
1	4	0

NFPA Notes:

6. Accidental Release Measures

Spill/Leak Procedures: Avoid breathing vapors. Ventilate area, remove all sources of ignition. Clean up area with absorbent material and place in closed containers for disposal. Wash floor with soap and water.

Dispose of in accordance with local, state and federal regulaitons.

7. Handling and Storage

Handling and Storage Precautions: Store and use in cool, dry, well-ventilated areas. Do not store above 120 F. Do not puncture or incinerate (burn) cans. Do not stick a pin, nail or any other sharp object into opening on top of can. Small pressurized containers of flammable products may be stored in areas suitable for ordinary combustibles except that they should not be stored in basements. See product label for additional information.
Work/Hygienic Practices: Wash exposed skin with soap and water after handling this product. Do not spray in eyes. Do not take internally.

8. Exposure Controls/Personal Protection

Respiratory Protection (specify type): Use NIOSH/MSHA approved mask for chemical products if ACGIH, OSHA and/or TWA limits will be exceeded.

Local Exhaust	Mechanical (general)	Special	Other
Recommended	Recommended	None	None

Eye/Face Protection: Safety glasses, goggles or face shield. Eye wash station should be available.
Skin Protection: Use Rubber, Nitrile (NBR), Butyl or Polyethylene gloves. Safety shower should be available.

9. Physical/Chemical Characteristics

Physical State:Liquid
Appearance:Aerosol
Odor:N/A
Specific Gravity (H2O=1):N/A
Water Solubility:Negligible

Boiling Point:N/A
Melting Point:N/A
Vapor Pressure (mm Hg):N/A
Vapor Density (air=1):N/A
Evaporation Rate: N/A
(Butyl Acetate = 1)

10. Stability and Reactivity

Stability: Material is stable.
Incompatibility (materials to avoid): Strong oxidizing agents, acids and alkalis.
Hazardous Decomposition Products: On burning, may release carbon dioxide and carbon monoxide.
Hazardous Polymerization: Will not occur.

11. Transportation Information

Air: "UN1950, Aerosols, flammable, 2.1"

Highway: "Consumer Commodity, ORM-D"

Ocean: "UN1950, Aerosols, 2.1, Ltd Qty"

12. Other Information

Disclaimer: The information contained herein is based on data available. However, no warranty is expressed or implied regarding the accuracy of the data or the results obtained from the use thereof. Because the information

contained herein may be applied under conditions beyond our control, we assume no responsibility for its use.

All components of this product are on the TSCA inventory.

Unk. = Unknown
N/A = Not applicable
Nav = Not available
N/D = Not determined
N/E = Not established
Prop. = Proprietary

Prepared: Date 08/11/93
Revised: Date 01/20/2014

Material Safety Data Sheet

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M(TM) Spray-Mount(TM) Artist's Adhesive 6064, 6065
MANUFACTURER: 3M
DIVISION: Stationery Products

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 09/16/2008
Supercedes Date: 02/08/2008

Document Group: 22-0411-3

Product Use:
Intended Use: Adhesive

SECTION 2: INGREDIENTS

Ingredient	C.A.S. No.	% by Wt
ACETONE	67-64-1	30 - 40
HEPTANE ISOMERS	64742-49-0	20 - 30
ISOBUTANE	75-28-5	20 - 30
NON-VOLATILE COMPONENTS - N.J. TRADE SECRET REGISTRY NO. 04499600-6201P++	Trade Secret	7 - 13
PROPANE	74-98-6	7 - 13

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Aerosol
Odor, Color, Grade: Mild Solvent Odor/Clear-light yellow
General Physical Form: Liquid
Immediate health, physical, and environmental hazards: Aerosol container contains flammable gas under pressure. Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure. May cause target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:
Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Inhalation:
Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:
Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	*No Data Available*

Flash Point	-50.00 °F [*Test Method:* Tagliabue Closed Cup] [*Details:* CONDITIONS: Propellant]
Flammable Limits - LEL	Approximately 1.85 % volume
Flammable Limits - UEL	Approximately 9.9 % volume

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Closed containers exposed to heat from fire may build pressure and explode. Extremely flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Aerosol container contains flammable material under pressure.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Collect the resulting residue containing solution. Place in a metal container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Do not pierce or burn container, even after use. No smoking while handling this material. Do not spray near flames or sources of ignition. Avoid breathing of vapors, mists or spray. Aerosol container contains flammable gas under pressure. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Avoid contact with oxidizing agents.

7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container tightly closed. Do not store containers on their sides. Store away from oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.
The following eye protection(s) are recommended: Indirect Vented Goggles.

8.2.2 Skin Protection

Avoid skin contact. Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.
Gloves made from the following material(s) are recommended: Polyvinyl Alcohol (PVA), Polyethylene/Ethylene Vinyl Alcohol.

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray.
Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges, Half facepiece or fullface pressure demand self-contained breathing apparatus. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

Ingredient	Authority	Type	Limit	Additional Information
ACETONE	ACGIH	TWA	500 ppm	Table A4
ACETONE	ACGIH	STEL	750 ppm	Table A4
ACETONE	OSHA	TWA, Vacated	750 ppm	
ACETONE	OSHA	TWA	1000 ppm	Table Z-1
ACETONE	OSHA	STEL, Vacated	1000 ppm	
HEPTANE ISOMERS	CMRG	TWA	50 ppm	
ISOBUTANE	ACGIH	TWA	1000 ppm	
PROPANE	ACGIH	TWA	1000 ppm	
PROPANE	OSHA	TWA	1000 ppm	Table Z-1

VAC Vacated PEL:Vacated Permissible Exposure Limits [PEL] are enforced as the OSHA PEL in some states. Check with your local regulatory agency.

SOURCE OF EXPOSURE LIMIT DATA:
ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Aerosol
Odor, Color, Grade:	Mild Solvent Odor/Clear-light yellow
General Physical Form:	Liquid
Autoignition temperature	*No Data Available*
Flash Point	-50.00 °F [*Test Method:* Tagliabue Closed Cup] [*Details:* CONDITIONS: Propellant]
Flammable Limits - LEL	Approximately 1.85 % volume
Flammable Limits - UEL	Approximately 9.9 % volume
Boiling point	*Not Applicable*
Density	0.673 g/ml
Vapor Density	*No Data Available*
Specific Gravity	0.673 [*Ref Std:* WATER=1]
pH	*Not Applicable*
Melting point	*Not Applicable*
Solubility in Water	Negligible
Evaporation rate	*No Data Available*
Hazardous Air Pollutants	0 % weight [*Test Method:* Calculated]
Volatile Organic Compounds	Approximately 58 % weight
Percent volatile	Approximately 91 % weight
VOC Less H2O & Exempt Solvents	Approximately 538 g/l [*Test Method:* calculated SCAQMD rule 443.1]
Viscosity	*Not Applicable*

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Heat; Sparks and/or flames

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

XPS Print Error

Job name:	(none)
Document name:	(none)
Page number:	6
Error:	XPS format error (19,4,330)

Material Safety Data Sheet

24 Hour Assistance:
1-847-367-7700
Rust-Oleum Corp.
www.rustoleum.com

Section 1 - Chemical Product / Company Information

Product Name:	Rust-Oleum High Performance Industrial Enamel Aerosol - Inverted Striping	Revision Date:	08/14/2007
Identification Number:	2326838, 2348838, 2364838, 2378838, 2391838		
Product Use/Class:	Inverted Striping Paint/Aerosol		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	Manufacturer:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		

Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Liquefied Petroleum Gas	68476-86-8	25.0	1000 PPM	N.E.	1000 PPM	N.E.
Titanium Dioxide	13463-67-7	15.0	10 mg/m3	N.E.	10 mg/m3	N.E.
Aliphatic Hydrocarbon	64742-89-8	10.0	300 PPM	N.E.	300 PPM	N.E.
Toluene	108-88-3	10.0	50 PPM	150 PPM	200 PPM	300 PPM
Naphtha	8032-32-4	10.0	300 PPM	N.E.	N.E.	N.E.
Acetone	67-64-1	5.0	500 PPM	750 PPM	750 PPM	N.E.
Stoddard Solvents	8052-41-3	5.0	100 PPM	N.E.	500 PPM	N.E.
Xylene	1330-20-7	5.0	100 PPM	150 PPM	100 PPM	N.E.
Pigment Black 7	1333-86-4	5.0	3.5 mg/m3	N.E.	3.5 mg/m3	N.E.
Aromatic Hydrocarbon	64742-95-6	5.0	N.E.	N.E.	N.E.	N.E.
Calcined Aluminum Silicate	1332-58-7	5.0	2 mg/m3	N.E.	5 mg/m3	N.E.
1,2,4-Trimethylbenzene	95-63-6	5.0	25 PPM	N.E.	N.E.	N.E.
Ethylbenzene	100-41-4	1.0	100 PPM	125 PPM	100 PPM	N.E.
Microcrystalline Silica	14808-60-7	1.0	0.025 mg/m3	N.E.	0.10 mg/m3	N.E.

Section 3 - Hazards Identification

*** Emergency Overview ***: Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. Vapors may cause flash fire or explosion. Extremely flammable liquid and vapor. Harmful if swallowed.

Effects Of Overexposure - Eye Contact: Causes eye irritation.

Effects Of Overexposure - Skin Contact: Prolonged or repeated contact may cause skin irritation. Substance may cause slight skin irritation.

Effects Of Overexposure - Inhalation: High vapor concentrations are irritating to the eyes, nose, throat and lungs. Avoid breathing vapors or mists. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Harmful if inhaled.

Effects Of Overexposure - Ingestion: Aspiration hazard if swallowed; can enter lungs and cause damage.

Substance may be harmful if swallowed.

Effects Of Overexposure - Chronic Hazards: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). May cause central nervous system disorder (e,g.,narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Overexposure to toluene in laboratory animals has been associated with liver abnormalities, kidney, lung and spleen damage. Effects in humans have included liver and cardiac abnormalities.
Contains carbon black. Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats experimentally exposed for long periods of time to excessive concentrations of carbon black and several insoluble fine dust particles. Tumors have not been observed in other animal species (i.e., mouse and hampster) under similar circumstances and study conditions. Epidemiological studies of North American workers show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black.
Carbon black is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC and is proposed to be listed as A4- "not classified as a human carcinogen" by the American Conference of Govermental Industrial Hygienists. Significant exposure is not anticipated during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of carbon black in the formula. Contains crystalline silica as silicon dioxide. Excessive inhalation of respirable crystalline silica dust may cause lung disease, silicosis or lung cancer. Significant exposure is not anticipated during brush or trowel application or drying. Risk of overexposure depends on the duration and level of exposure to dust from repeated sanding of surfaces, mechanical abrasion or spray mist and actual concentration of crystalline silica in the formula. Crystalline silica is listed as Group 1 "carcinogenic to humans" by the International Agency for Research on Cancer (IARC,) and Group 2, "reasonably anticipated to be a carcinogen" by the National Toxicology Program (NTP)

Primary Route(s) Of Entry: Skin Contact, Skin Absorption, Inhalation, Eye Contact

Section 4 - First Aid Measures

First Aid - Eye Contact: Hold eyelids apart and flush with plenty of water for at least 15 minutes. Get medical attention.

First Aid - Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

First Aid - Inhalation: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

First Aid - Ingestion: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention.

Section 5 - Fire Fighting Measures

Flash Point: -156 F
(Setaflash)

LOWER EXPLOSIVE LIMIT: 0.7 %
UPPER EXPLOSIVE LIMIT : 12.8 %

Extinguishing Media: Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Perforation of the pressurized container may cause bursting of the can. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame.

Special Firefighting Procedures: Evacuate area and fight fire from a safe distance.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers.

Section 7 - Handling And Storage

Handling: Wash hands before eating. Wash thoroughly after handling. Avoid breathing vapor or mist. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues.

Storage: Contents under pressure. Do not expose to heat or store above 120 ° F. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment.

Respiratory Protection: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Skin Protection: Nitrile or Neoprene gloves may afford adequate skin protection. Use impervious gloves to prevent skin contact and absorption of this material through the skin.

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other protective equipment: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application.

Hygienic Practices: Wash thoroughly with soap and water before eating, drinking or smoking.

Section 9 - Physical And Chemical Properties

Boiling Range:	-34 - 900 F	Vapor Density:	Heavier than air
Odor:	Solvent Like	Odor Threshold:	ND
Appearance:	Liquid	Evaporation Rate:	Faster than Ether
Solubility in H2O:	Slight		
Freeze Point:	ND	Specific Gravity:	0.9700
Vapor Pressure:	ND	PH:	NE

Physical State: Liquid

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition.

Incompatibility: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

Hazardous Decomposition: When heated to decomposition, it emits acrid smoke and irritating fumes. By open flame, carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur under normal conditions.

Stability: This product is stable under normal storage conditions.

Section 11 - Toxicological Information

Product LD50: ND

Product LC50: ND

Chemical Name	LD50	LC50
Liquefied Petroleum Gas	N.D.	N.D.
Titanium Dioxide	>7500 mg/kg (ORAL, RAT)	N.D.
Aliphatic Hydrocarbon	N.D.	N.D.
Toluene	636 mg/kg (Oral, Rat)	49 gm/M3 (Inhalation, Rat)
Naphtha	>5000 mg/kg (ORAL, RAT)	N.D.
Acetone	N.D.	N.D.
Stoddard Solvents	N.D.	N.D.
Xylene	4300, mg/kg (Oral Rat)	5000 ppm/4hr (Inhalation, Rat)
Pigment Black 7	>8000 mg/kg (ORAL, RAT)	N.D.
Aromatic Hydrocarbon	N.D.	N.D.
Calcined Aluminum Silicate	5000 mg/kg (ORAL RAT)	N.D.
1,2,4-Trimethylbenzene	N.D.	18000 mg/m3 (RAT, 4 HR)
Ethylbenzene	3500 mg/kg (ORAL, RAT)	N.D.
Microcrystalline Silica	N.D.	N.D.

Section 12 - Ecological Information

Ecological Information: Product is a mixture of listed components.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance to local, state and federal regulations and ordinances. Do not allow to enter storm drains or sewer systems.

Section 14 - Transportation Information

DOT Proper Shipping Name: Aerosol
DOT Technical Name: —
Packing Group: —
Hazard Subclass: —

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Document name:	(none)
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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL DTE OIL LIGHT
Product Description: Base Oil and Additives
Product Code: 600148-00, 970294
Intended Use: Turbine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
Product Technical Information	800-662-4525, 800-947-9147
MSDS Internet Address	http://www.exxon.com, http://www.mobil.com

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Low order of toxicity. Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity:	0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

Inhalation

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use

mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

Ingestion

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur Oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method]: >200C (392F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

Do not store in open or unlabelled containers. Keep away from incompatible materials.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

Personal Protection

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator

selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 C): 0.869
Flash Point [Method]: >200C (392F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316C (600F)
Vapor Density (Air = 1): > 2 at 101 kPa
Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 C
Evaporation Rate (N-Butyl Acetate = 1): N/D
pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 31 cSt (31 mm²/sec) at 40 C | 5.5 cSt (5.5 mm²/sec) at 100C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -18°C (0°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m³	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 5000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be

completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT) : Not Regulated for Land Transport

LAND (TDG) : Not Regulated for Land Transport

SEA (IMDG) : Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA) : Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
DIPHENYLAMINE	122-39-4	5
PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP)	68649-42-3	15

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL
2 = ACGIH A1
3 = ACGIH A2
4 = OSHA Z
5 = TSCA 4
6 = TSCA 5a2
7 = TSCA 5e
8 = TSCA 6
9 = TSCA 12b
10 = CA P65 CARC
11 = CA P65 REPRO
12 = CA RTK
13 = IL RTK
14 = LA RTK
15 = MI 293
16 = MN RTK
17 = NJ RTK
18 = PA RTK
19 = RI RTK

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:
Section 04: First Aid Inhalation - Header was modified.
Section 04: First Aid Ingestion - Header was modified.
Section 06: Notification Procedures - Header was modified.
Section 10 Stability and Reactivity - Header was modified.
Section 13: Disposal Recommendations - Note was modified.
Section 09: Evaporation Rate - Header was modified.
Section 08: Personal Protection - Header was modified.
Section 08: Personal Protection was modified.
Section 07: Handling and Storage - Handling was modified.
Section 07: Handling and Storage - Storage Phrases was modified.
Section 11: Dermal Lethality Test Data was modified.
Section 11: Oral Lethality Test Data was modified.
Section 11: Inhalation Lethality Test Data was modified.
Section 05: Hazardous Combustion Products was modified.
Section 06: Accidental Release - Spill Management - Water was modified.
Section 09: Relative Density - Header was modified.
Section 09: Viscosity was modified.
Section 09: Viscosity was modified.
Section 15: List Citations Table was modified.
Section 15: List Citation Table - Header was modified.
Section 15: National Chemical Inventory Listing was modified.
Section 16: Code to MHCs was modified.
Section 08: Exposure limits/standards was modified.
Hazard Identification: OSHA - May be Hazardous Statement was modified.
Section 06: Notification Procedures was modified.
Section 01: Company Contact Methods Sorted by Priority was modified.
Section 12: Ecological Information - Acute Aquatic Toxicity was added.
Section 12: Ecological Information - Acute Aquatic Toxicity was added.
Hazard Identification: Environmental Hazard was deleted.
Hazard Identification: Environmental Hazard - Header was deleted.
Section 12: Ecological Information - Acute Aquatic Toxicity was deleted.
Section 12: Ecological Information - Acute Aquatic Toxicity was deleted.

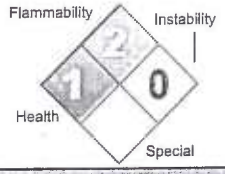
affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0B, 0B, 0, 0, 0, 0 PPEC: A

DGN: 2007057XUS (538877)

MATERIAL SAFETY DATA SHEET
Klean-Strip Paint Thinner

HEALTH	2
FLAMMABILITY	2
	0
PPE	G



Printed: 12/14/2005
Revision: 10/03/2005

Date Created: 10/03/2005

1. Product and Company Identification

Product Code:	GKPT94002
Product Name:	Klean-Strip Paint Thinner
Reference #:	1677.1
Manufacturer Information	
Company Name:	W. M. Barr 2105 Channel Avenue Memphis, TN 38113
Phone Number:	(901)775-0100
Emergency Contact:	3E 24 Hour Emergency Contact (800)451-8346
Information:	W.M. Barr Customer Service (800)398-3892
Web site address:	www.wmbarr.com
Preparer Name:	W.M. Barr and Company, Inc. (901)775-0100

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA TWA	ACGIH TWA	Other Limits
1. Stoddard solvent	8052-41-3	95.0 -100.0 %	500 ppm	100 ppm	No data.
2. 1,2,4-Trimethylbenzene	95-63-6	1.0 -2.0 %	200 ppm	50 ppm	No data.
3. Raffinates (petroleum), sorption process	64741-85-1	95.0 -100.0 %	1000 ppm	500 ppm	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Stoddard solvent	WJ8925000	No data.	No data.	250 ppm	No data.
2. 1,2,4-Trimethylbenzene	DC3325000	500 ppm/(10min)	300 ppm	No data.	No data.
3. Raffinates (petroleum), sorption process	NA	No data.	No data.	750 ppm	No data.

3. Hazards Identification

Emergency Overview

Caution! Combustible. Keep away from heat, sparks, flame and all other sources of ignition. Vapors may cause fire. Vapors may travel long distances to other areas and rooms away from work site. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition anywhere in the structure, dwelling or building during use and until all vapors are gone from work site and all areas away from work site. Keep away from electrical outlets and switches. Beware of static electricity that may be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic)

Inhalation Acute Exposure Effects:

May cause dizziness; headache; watering of eyes; eye irritation; weakness; nausea; muscle twitches, and depression of central nervous system. Severe overexposure may cause convulsions; unconsciousness; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:

May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:
Harmful or fatal if swallowed. May cause nausea; weakness; muscle twitches; gastrointestinal irritation; and diarrhea. Severe overexposure may cause convulsions; unconsciousness; and death.

Chronic Exposure Effects:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause jaundice; bone marrow damage; liver damage; anemia; and skin irritation.

Signs and Symptoms Of Exposure

Inhalation, ingestion, and dermal are possible routes of exposure.

Medical Conditions Generally Aggravated By Exposure

Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E
PHYSICAL HAZARDS : N/E
TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:
If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.

Skin Contact:
Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

Eye Contact:
Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.

Ingestion:
Do not induce vomiting. Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

Note to Physician

Call your local poison control center for further information.

5. Fire Fighting Measures

Flammability Classification:	Class II
Flash Pt:	105.00 F Method Used: SCC
Explosive Limits:	LEL: 1.00 UEL: No data.
Autoignition Pt:	No data.

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Clean up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small spills:

Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Waste Disposal:

Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection

Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Engineering Controls (Ventilation etc.)

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	> 310.00 F
Autoignition Pt:	No data.
Flash Pt:	105.00 F Method: SCC
Explosive Limits:	LEL: 1.00 UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk Density:	6.659 LB/GA
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Evaporation Rate (vs Butyl Acetate=1):	No data.
Solubility in Water:	No data.
Percent Volatile:	100.0 % by weight.
VOC / Volume:	800.0000 G/L
Corrosion Rate:	No data.
pH:	No data.

Appearance and Odor

Water White / Free and Clear

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with federal, state, and local regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Stoddard solvent	8052-41-3	No	No	No	No
2. 1,2,4-Trimethylbenzene	95-63-6	No	No	Yes	No
3. Raffinates (petroleum), sorption process	64741-85-1	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Stoddard solvent	8052-41-3	No	No	No	No
2. 1,2,4-Trimethylbenzene	95-63-6	No	No	No	No
3. Raffinates (petroleum), sorption process	64741-85-1	No	No	No	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[ ] Yes [X] No Acute (immediate) Health Hazard
[ ] Yes [X] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Reactive Hazard

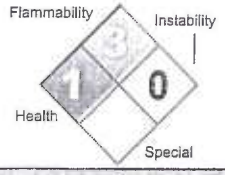
[ ] Yes [X] No Sudden Release of Pressure Hazard

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

MATERIAL SAFETY DATA SHEET
Klean-Strip Denatured Alcohol



Printed: 12/14/2005
Revision: 06/13/2005

Date Created: 06/13/2005

1. Product and Company Identification

Product Code:	QSL26
Product Name:	Klean-Strip Denatured Alcohol
Reference #:	1625.5
Manufacturer Information	
Company Name:	W. M. Barr 2105 Channel Avenue Memphis, TN 38113
Phone Number:	(901)775-0100
Emergency Contact:	3E 24 Hour Emergency Contact (800)451-8346
Information:	W.M. Barr Customer Service (800)398-3892
Web site address:	www.wmbarr.com
Preparer Name:	W.M. Barr EHS Department (901)775-0100

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Percentage	OSHA PEL	ACGIH TWA	Other Limits
1. Ethyl alcohol	64-17-5	45.0 -50.0 %	1000 ppm	1000 ppm	No data.
2. Methanol	67-56-1	45.0 -50.0 %	200 ppm	200 ppm	No data.
3. Methyl isobutyl ketone	108-10-1	1.0 -4.0 %	100 ppm	50 ppm	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Ethyl alcohol	KQ6300000	No data.	No data.	No data.	No data.
2. Methanol	PC1400000	No data.	No data.	250 ppm	No data.
3. Methyl isobutyl ketone	SA9275000	No data.	No data.	75 ppm	No data.

3. Hazards Identification

Emergency Overview

Danger! Flammable! Keep away from heat, sparks, flame, and all other sources of ignition. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and all other sources of ignition during use and until all vapors are gone. Beware of static electricity that mat be generated by synthetic clothing and other sources.

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

Health Hazards (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, irritation to the eyes, drowsiness, nausea, other central nervous system effects, spotted vision, dilation of pupils, and convulsions.

Skin Contact Acute Exposure Effects:
May cause irritation, drying of skin, redness, and dermatitis. May cause symptoms listed under inhalation. May be absorbed through damaged skin.

Eye Contact Acute Exposure Effects:
May cause irritation.

Ingestion Acute Exposure Effects:
Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May produce fluid in the lungs and pulmonary edema. May cause dizziness, headache, nausea, drowsiness, loss of coordination, stupor, reddening of face and or neck, liver, kidney and heart damage, coma, and death. May produce symptoms listed under

inhalation.

Chronic Exposure Effects:
May cause symptoms listed under inhalation, dizziness, fatigue, tremors, permanent central nervous system changes, blindness, pancreatic damage, and death.

Signs and Symptoms Of Exposure

No data available.

Medical Conditions Generally Aggravated By Exposure

Diseases of the liver.

OSHA Hazard Classes:

HEALTH HAZARDS : N/E
PHYSICAL HAZARDS : N/E
TARGET ORGANS & EFFECTS: N/E

4. First Aid Measures

Emergency and First Aid Procedures

Inhalation:
If user experiences breathing difficulty, move to air free of vapors. Administer oxygen or artificial respiration until medical assistance can be rendered.

Skin Contact:
Wash with soap and water.

Eye Contact:
Flush with large quantities of water for at least 15 minutes. If irritation from contact persists, get medical attention.

Ingestion:
Call your poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

Note to Physician

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further instructions.

5. Fire Fighting Measures

Flammability Classification:	OSHA Class IB
Flash Pt:	45.00 F Method Used: SCC
Explosive Limits:	LEL: 1.00 UEL: No data.
Autoignition Pt:	No data.

Special Fire Fighting Procedures

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined area. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Unusual Fire and Explosion Hazards

No data available.

Extinguishing Media

Use carbon dioxide, dry powder, or foam.

Unsuitable Extinguishing Media

No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Clean-up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources, keep flares, smoking or flames out of hazard area.

Small spills:

Take up liquid with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

8. Exposure Controls/Personal Protection

Respiratory Equipment (Specify Type)

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection

Safety glasses, chemical goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Ventilation

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering -- Stop -- ventilation is inadequate. Leave area immediately.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	147.00 F
Autoignition Pt:	No data.
Flash Pt:	45.00 F Method: SCC
Explosive Limits:	LEL: 1.00 UEL: No data.
Specfic Gravity:	No data.
Bulk Density:	6.61 LB/GA
Vapor Presure:	No data.
Vapor Density:	No data.
Evaporation Rate:	No data.
Solubility in Water:	No data.
Percent Volatile:	100.0 % by weight.
VOC / Volume:	792.0000 G/L
Corrosion Rate:	No data.
pH:	No data.

Appearance and Odor

No data available.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Polymerization

No data available.

11. Toxicological Information

Toxicological Information

No data available.

Carcinogenicity/Other Information

No data available.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

Ecological Information

No data available.

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name

No data available.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethyl alcohol	64-17-5	No	No	No	No
2. Methanol	67-56-1	No	Yes 5000 LB	Yes	No
3. Methyl isobutyl ketone	108-10-1	No	Yes 5000 LB	Yes	Yes

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Ethyl alcohol	64-17-5	No	No	No	No
2. Methanol	67-56-1	HAP	No	No	No
3. Methyl isobutyl ketone	108-10-1	HAP	No	No	No

SARA (Superfund Amendments and Reauthorization Act of 1986) Lists:

Sec.302:	EPA SARA Title III Section 302 Extremely Hazardous Chemical with TPQ. * indicates 10000 LB TPQ if not volatile.
Sec.304:	EPA SARA Title III Section 304: CERCLA Reportable + Sec.302 with Reportable Quantity. ** indicates statutory RQ.
Sec.313:	EPA SARA Title III Section 313 Toxic Release Inventory. Note: -Cat indicates a member of a chemical category.
Sec.110:	EPA SARA 110 Superfund Site Priority Contaminant List

TSCA (Toxic Substances Control Act) Lists:

5A(2):	Chemical Subject to Significant New Rules (SNURS)
6A:	Commercial Chemical Control Rules
8A:	Toxic Substances Subject To Information Rules on Production
8A CAIR:	Comprehensive Assessment Information Rules - (CAIR)
8A PAIR:	Preliminary Assessment Information Rules - (PAIR)
8C:	Records of Allegations of Significant Adverse Reactions
8D:	Health and Safety Data Reporting Rules
8D TERM:	Health and Safety Data Reporting Rule Terminations

Other Important Lists:

CWA NPDES:	EPA Clean Water Act NPDES Permit Chemical
CAA HAP:	EPA Clean Air Act Hazardous Air Pollutant
CAA ODC:	EPA Clean Air Act Ozone Depleting Chemical (1=CFC, 2=HCFC)
CA PROP 65:	California Proposition 65

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[ ] Yes [X] No Acute (immediate) Health Hazard
[ ] Yes [X] No Chronic (delayed) Health Hazard
[ ] Yes [X] No Fire Hazard
[ ] Yes [X] No Reactive Hazard
[ ] Yes [X] No Sudden Release of Pressure Hazard

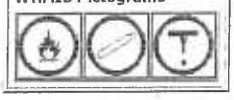
16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

View Section : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

WHMIS Pictograms



SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION (N/A)

Product Name:	**I-Chem White Lithium Grease (##ICA725)**
Distributor Name:	Amrep, Inc.
Distributor Address:	990 Industrial Park Drive Marietta, GA 30062
	D.O.T. Emergency Phone: CHEM TEL (800) 255-3924 INTERNATIONAL: +01-813-248-0584
Distributor Telephone:	(770) 422-2071
Hours Of Operation:	(Mon - Fri / 8am - 5pm ET)
Revision Date:	October 24, 2007 Revision ##: 1.0
	Expiry Date: October 24, 2010
Manufacturer Name:	Amrep, Inc.
Address:	990 Industrial Park Drive Marietta, GA 30062
	D.O.T. Emergency Phone: CHEM TEL (800) 255-3924 INTERNATIONAL: +01-813-248-0584
General Use:	Product Use: Lubricant.
Business Phone:	(770) 422-2071
Hazard Rating:	0 = Minimal 1 = Slight 2 = Moderate 3 = Severe 4 = Extreme
Product Codes:	A00725

NFPA

HMIS

HEALTH	2
FIRE	3
REACTIVITY	0
PPE	B

To Top of page

SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS : (N/A)

Ingredient Name	CAS#	Ingredient Percent
Acetone EC Index Number: 1	67-64-1	10 - 30% by Weight
Heptane EC Index Number: 1	142-82-5	10 - 30% by Weight
Isobutane EC Index Number: 1	75-28-5	10 - 30% by Weight
Propane EC Index Number: 1	74-98-6	7 - 13% by Weight
Distillates (petroleum), hydrotreated light EC Index Number: 1	64742-47-8	1 - 5% by Weight

To Top of page

SECTION 3 : HAZARDS IDENTIFICATION : (N/A)

Emergency Overview: DANGER

EXTREMELY FLAMMABLE. HARMFUL BY INHALATION.
MAY CAUSE EYE IRRITATION. MAY CAUSE SKIN IRRITATION.
CONTENTS UNDER PRESSURE. CONTAINER MAY EXPLODE IF HEATED.

Environment Hazards:	May cause long-term adverse effects in the aquatic environment. See Section 12 for more information.
Potential Health Effects:	See Section 11 for more information. HMIS: See Section 15

Potential Acute Health Effects:

Route of Exposure:	Skin contact, eye contact, inhalation, and ingestion.
Potential Health Effects:	
Eye Contact:	May cause eye irritation.
Skin Contact:	May cause skin irritation.
Inhalation:	Harmful by inhalation. May cause respiratory tract irritation. May cause asphyxiation. This product may be aspirated into the lungs and cause chemical pneumonitis.
Ingestion:	Not a normal route of exposure. Harmful: may cause lung damage if swallowed.
Chronic Health Effects:	Prolonged or repeated contact may dry skin and cause irritation.
Target Organs:	Skin, eyes, gastrointestinal tract, respiratory system.
Signs/Symptoms:	Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Handling can cause dry skin. Vapours may cause drowsiness and dizziness.
Aggravation of Pre-Existing Conditions:	Asthma. Allergies.

To Top of page

SECTION 4 : FIRST AID MEASURES : (N/A)

Eye Contact:	In case of contact, immediately flush eyes with plenty of water. If easy to do, remove contact lenses, if worn.
Skin Contact:	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion:	If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Note to Physicians:	Symptoms may not appear immediately.
Other First Aid:	General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).

To Top of page

SECTION 5 : FIRE FIGHTING MEASURES : (N/A)

Fire:	Flammability: Flammable by WHMIS/OSHA criteria.
Flash Point:	Not available.
Upper Flammable or Explosive Limit:	Not available.
Lower Flammable or Explosive Limit:	Not available.
Auto Ignition Temperature:	Not available.
Extinguishing Media:	Suitable Extinguishing Media: Powder, foam, carbon dioxide.
Unsuitable Media:	Unsuitable Extinguishing Media: Water.
Hazardous Combustion Byproducts:	May include, and are not limited to: oxides of carbon.
Fire Fighting Instructions:	Containers may explode when heated. Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).
Sensitivity to Impact:	Sensitivity to Mechanical Impact: Not available.
Static Discharge Effects:	Sensitivity to Static Discharge: Not available.

To Top of page

SECTION 6 : ACCIDENTAL RELEASE MEASURES : (N/A)

Personal Precautions:	Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition. Ruptured cylinders may rocket.
Spill Cleanup Measures:	Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE). Methods for Clean-Up: Vacuum or sweep material and place in a disposal container. Allow gas to dissipate harmlessly into the atmosphere.
Environmental Precautions:	Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). This material is a water pollutant. Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.
Other Precautions:	Not available.

To Top of page

SECTION 7 : HANDLING and STORAGE : (N/A)

Handling:	Keep away from sources of ignition. - No smoking. Avoid contact with skin and eyes. Do not swallow. Do not breathe gas/fumes/vapor/spray. Use only in well-ventilated areas. Handle and open container with care. When using, do not eat or drink. Wash hands before eating, drinking, or smoking.
Storage:	Keep out of the reach of children. Keep container in a well-ventilated place. Do not store at temperatures above 49 deg C/120 deg F.

Hygiene Practices:	General Hygiene Considerations: Handle according to established industrial hygiene and safety practices.

To Top of page

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION : (N/A)

Engineering Controls:	Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Skin Protection Description:	Wear suitable protective clothing.
Hand Protection Description:	Wear suitable gloves.
Eye/Face Protection:	Wear eye/face protection.
Protective Clothing/Body Protection:	Wear suitable protective clothing.
Respiratory Protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
	General Hygiene Considerations: Handle according to established industrial hygiene and safety practices.
	HMIS: See Section 15

Ingredient Guidelines

Ingredient: Acetone

Guideline Type:	OSHA PEL-TWA
Guideline Information:	1000 ppm
Guideline Type:	ACGIH TLV-TWA
Guideline Information:	500 ppm

Ingredient: Distillates (petroleum), hydrotreated light

Guideline Type:	OSHA PEL-TWA
Guideline Information:	100 ppm
Guideline Type:	ACGIH TLV-TWA
Guideline Information:	200 mg/m3

Ingredient: Heptane

Guideline Type:	OSHA PEL-TWA
Guideline Information:	400 ppm
Guideline Type:	ACGIH TLV-TWA
Guideline Information:	400 ppm

Ingredient: Isobutane

Guideline Type:	OSHA PEL-TWA
Guideline Information:	Not available.
Guideline Type:	ACGIH TLV-TWA
Guideline Information:	Not available.

Ingredient: Propane

Guideline Type:	OSHA PEL-TWA
Guideline Information:	1000 ppm
Guideline Type:	ACGIH TLV-TWA
Guideline Information:	1000 ppm

To Top of page

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES : (N/A)

Physical State/Appearance:	Opaque.
Color:	White.
Odor:	Characteristic.
Physical State:	Gas/Pressurized Liquid.
pH:	Not applicable.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Flash Point:	Not available.
Auto Ignition Temperature:	Not available.
Upper Explosive Limit:	Not available.
Lower Explosive Limit:	Not available.
Boiling Point:	Not available.
Freezing Point:	Not available.
Solubility:	In Water: Partial.
Specific Gravity:	0.77 (Concentrate only)
Evaporation Point:	Not available.
Percent Volatile:	wt. %: Not available.
Volatile Organic Compound Content:	wt. %: 50% (US federal/CARB/OTC/LADCO)
Viscosity:	Not available.
Odor Threshold:	Not available.
Coefficient of Water/Oil Distribution:	Not available.

To Top of page

SECTION 10 : STABILITY and REACTIVITY : (N/A)

Chemical Stability:	Stable under normal storage conditions. Contents under pressure. Container may explode if heated. Do not puncture. Do not burn. Keep in a cool place.
Incompatibilities with Other Materials:	Oxidizers.
Reactivity:	Conditions of Reactivity: Heat. Incompatible materials.
	Possibility of Hazardous Reactions: No dangerous reaction known under conditions of normal use.

Hazardous Decomposition Products:	May include, and are not limited to: oxides of carbon.

To Top of page

SECTION 11 : TOXICOLOGICAL INFORMATION : (N/A)

Applies to All Ingredients

Eye Effect:	ACUTE: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Skin Effects:	ACUTE: May cause skin irritation. Handling can cause dry skin.
Ingestion Effects:	ACUTE: Not a normal route of exposure. Harmful: may cause lung damage if swallowed.
Inhalation Effects:	ACUTE: Harmful by inhalation. May cause respiratory tract irritation. May cause asphyxiation. This product may be aspirated into the lungs and cause chemical pneumonitis. Vapours may cause drowsiness and dizziness.
Chronic Effects:	Not hazardous by WHMIS/OSHA criteria.
Carcinogenicity:	Not hazardous by WHMIS/OSHA criteria.
Mutagenicity:	Not hazardous by WHMIS/OSHA criteria.
Teratogenicity:	Not hazardous by WHMIS/OSHA criteria.
Embryo Toxicity:	Not hazardous by WHMIS/OSHA criteria.
Sensitization:	Respiratory Sensitization: Not hazardous by WHMIS/OSHA criteria. Skin Sensitization: Not hazardous by WHMIS/OSHA criteria.
Reproductive Toxicity:	Not hazardous by WHMIS/OSHA criteria.
Other Toxicological Information:	Target Organs: Not available. Toxicologically Synergistic Materials: Not available.

Acetone :

Ingestion Effects:	LD50 (oral): 5800 mg/kg, rat
Inhalation Effects:	LC50: Not available.
Carcinogenicity:	Chemical Listed as Carcinogen or Potential Carcinogen *: Not listed.

Heptane :

Ingestion Effects:	LD50 (oral): Not available.
Inhalation Effects:	LC50: 103 g/m3 4hrs, rat
Carcinogenicity:	Chemical Listed as Carcinogen or Potential Carcinogen *: Not listed.

Isobutane :

Ingestion Effects:	LD50 (oral): Not available.
Inhalation Effects:	LC50: Not available.
Carcinogenicity:	Chemical Listed as Carcinogen or Potential Carcinogen *: Not listed.

Propane :

Ingestion Effects:	LD50 (oral): Not available.
Inhalation Effects:	LC50: Not available.
Carcinogenicity:	Chemical Listed as Carcinogen or Potential Carcinogen *: Not listed.

Distillates (petroleum), hydrotreated light :

Ingestion Effects:	LD50 (oral): > 5000 mg/kg, rat
Inhalation Effects:	LC50: Not available.
Carcinogenicity:	Chemical Listed as Carcinogen or Potential Carcinogen *: I -3, G-A3
Comments:	* See Section 15 for more information.

To Top of page

SECTION 12 : ECOLOGICAL INFORMATION : (N/A)

Ecotoxicity:	May cause long-term adverse effects in the aquatic environment
Bioaccumulation:	Bioaccumulation / Accumulation: Not available.
Biodegradation:	Persistence / Degradability: Not available. Mobility in Environment: Not available.

To Top of page

SECTION 13 : DISPOSAL CONSIDERATIONS : (N/A)

Waste Disposal:	This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

To Top of page

SECTION 14 : TRANSPORT INFORMATION : (N/A)

DOT Hazard Class:	ORM-D
Canadian Hazard Class:	Limited Quantity

To Top of page

SECTION 15 : REGULATORY INFORMATION : (N/A)

Applies to All Ingredients :

OSHA 29 CFR 1200:	US: MSDS prepared pursuant to the Hazard Communication Standard (29 CFR 1910.1200).
State:	California Proposition 65: This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Canada WHMIS:	Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. WHMIS Classification(s): Class A - Compressed Gas Class B5 - Flammable Aerosol Class D2B - Skin/Eye Irritant HMIS - Hazardous Materials Identification System: Health - 2 Flammability - 3 Physical Hazard - 0 PPE - B NFPA - National Fire Protection Association: Health - 2 Fire - 3 Reactivity - 0 Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme
Acetone :	
TSCA 8(b): Inventory Status (Yes/No):	Yes
Section 302 Extremely Hazardous Substances (TPQ):	(lbs.): Not listed.
Section 304 EHS RQ:	(lbs.): Not listed.
Section 304 CERCLA RQ:	5,000 lbs.
Section 313 Toxic Release Form:	Section 313: Not listed.
Canada DSL:	Yes
Heptane :	
TSCA 8(b): Inventory Status (Yes/No):	Yes
Section 302 Extremely Hazardous Substances (TPQ):	(lbs.): Not listed.
Section 304 EHS RQ:	(lbs.): Not listed.
Section 304 CERCLA RQ:	(lbs.): Not listed.
Section 313 Toxic Release Form:	Section 313: Not listed.
Canada DSL:	Yes
Isobutane :	
TSCA 8(b): Inventory Status (Yes/No):	Yes
Section 302 Extremely Hazardous Substances (TPQ):	(lbs.): Not listed.
Section 304 EHS RQ:	(lbs.): Not listed.
Section 304 CERCLA RQ:	(lbs.): Not listed.
Section 313 Toxic Release Form:	Section 313: Not listed.
Canada DSL:	Yes
Propane :	
TSCA 8(b): Inventory Status (Yes/No):	Yes
Section 302 Extremely Hazardous Substances (TPQ):	(lbs.): Not listed.
Section 304 EHS RQ:	(lbs.): Not listed.
Section 304 CERCLA RQ:	(lbs.): Not listed.
Section 313 Toxic Release Form:	Section 313: Not listed.
Canada DSL:	Yes
Distillates (petroleum), hydrotreated light :	
TSCA 8(b): Inventory Status (Yes/No):	Yes
Section 302 Extremely Hazardous Substances (TPQ):	(lbs.): Not listed.
Section 304 EHS RQ:	(lbs.): Not listed.
Section 304 CERCLA RQ:	(lbs.): Not listed.
Section 313 Toxic Release Form:	Section 313: Not listed.
Canada DSL:	Yes
	SOURCE AGENCY CARCINOGEN CLASSIFICATIONS: OSHA (O): Occupational Safety and Health Administration. ACGIH (G): American Conference of Governmental Industrial Hygienists. A1 - Confirmed human carcinogen. A2 - Suspected human carcinogen. A3 - Animal carcinogen. A4 - Not classifiable as a human carcinogen. A5 - Not suspected as a human carcinogen. IARC (I): International Agency for Research on Cancer. 1 - The agent (mixture) is carcinogenic to humans. 2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. 2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals. 3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans. 4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans. NTP (N): National Toxicology Program. 1 - Known to be carcinogens.

2 - Reasonably anticipated to be carcinogens.

To Top of page

SECTION 16 : ADDITIONAL INFORMATION : (N/A)

HMIS:

Health Hazard:	2 = Moderate
Fire Hazard:	3 = Severe
Reactivity:	0 = Minimal
Personal Protection:	B

NFPA:

Health:	2 = Moderate
Fire Hazard:	3 = Severe
Reactivity:	0 = Minimal

MSDS Revision Date: October 24, 2007
Revision ##: 1.0

Expiry Date: October 24, 2010

MSDS Author: Prepared by: Nexreg Compliance Inc.
Prepared for: Amrep, Inc.
Phone: (770) 422-2071 (Mon - Fri / 8am - 5pm ET)

Disclaimer:

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Hazard Rating:

0 = Minimal
1 = Slight
2 = Moderate
3 = Severe
4 = Extreme

To Top of page

Date: 23 July 2009
Supercedes: 25 July 2006

MATERIAL SAFETY DATA SHEET

IN CASE OF EMERGENCY CALL CHEMTREC AT 1-800-424-9300

1. PRODUCT IDENTIFICATION AND COMPANY IDENTIFICATION:

Product Name: **GOJO® NATURAL* ORANGE™ PUMICE HAND CLEANER**

Company Name & Address: GOJO Industries, Inc.
One GOJO Plaza, Suite 500
Akron, OH 44311

Emergency Phone: **1-800-424-9300 CHEMTREC**
Non-Emergency Phone: (330) 255-6000
MSDS Request Phone: (330) 255-6000 x8804

2. INFORMATION ON INGREDIENTS:

HAZARDOUS INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH TLV	% RANGE
None				

Other ingredient(s) with notification requirements:	CAS NUMBER	List
Limonene	5989-27-5	NJ; CN 1

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

When used according to instructions, the product applicable to this MSDS is safe and presents no immediate or long-term health hazard. However, abnormal entry routes, such as gross ingestion, may require immediate medical attention.

Potential Health Effects:

HMIS: Health 0 Flammability 1 Reactivity 0 Personal Protection None

Eye Contact: May cause eye irritation.
Skin Contact: No irritation or reaction expected.
Inhalation: Not applicable.
Ingestion: May cause upset stomach, nausea (Abnormal entry route).
Carcinogenicity: Not listed as a carcinogen by NTP, IARC, OSHA or ACGIH.

4. FIRST AID MEASURES:

Eye Contact: Do not rub eyes. Flush eyes thoroughly with water for 15 minutes. If condition worsens or irritation persists, contact physician.
Skin Contact: Not applicable.
Inhalation: Not applicable.
Ingestion: Do not induce vomiting. Contact a physician or Poison Control Center.

5. FIRE FIGHTING MEASURES:

NFPA: Health 0 Fire 1 Reactivity 0

Flashpoint °F/°C (PMCC method): Not determined.
Unusual Fire and Explosion Hazards: None known.
Special Fire Fighting Procedures: None known.
Extinguishing Media: X Water Fog X Alcohol Foam X CO_2 X Dry Chemical ____ Other

6. ACCIDENTAL RELEASE MEASURES:

No special requirements. Water clean up and rinse. CAUTION – WILL CAUSE SLIPPERY SURFACES.

7. HANDLING AND STORAGE:

Store at normal room temperature away from reach of small children. Keep containers sealed. Use older containers first. Avoid freezing conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Eye Protection:	None required under normal conditions.
Skin Protection:	None required under normal conditions.
Respiratory Protection:	None required under normal conditions.
Ventilation:	None required under normal conditions.
Protective Equipment or Clothing:	None required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance and Odor	Creamy opaque viscous gel, orange fragrance.
pH (undiluted):	5.0-8.0
VOC , %:	7%

10. STABILITY AND REACTIVITY:

Stable/Non reactive product.

11. TOXICOLOGICAL INFORMATION:

No acute or chronic toxic effects expected when used according to directions.

12. ECOLOGICAL CONSIDERATIONS:

No ecological or special considerations when used according to directions. Not considered environmentally harmful from normal dilution, expected usage and typical drainage to sewers, septic systems and treatment plants.

13. DISPOSAL CONSIDERATIONS:

No special considerations when disposed according to local, state and Federal regulations.

14. TRANSPORT INFORMATION:

Not classified as a hazardous material.

15. REGULATORY AND OTHER INFORMATION:

TSCA: All ingredients are listed or exempt per reference 15 USC 2602 (2)(B)(iv).

Complies with current FDA regulations for cosmetic and/or over-the-counter drug products.

WHMIS: Not Controlled

MATERIAL SAFETY DATA SHEET

Specialty Adhesives, Inc.
3777 Air Park
Memphis, TN 38118

Date: 2014
Prepared by: Tim Myrick/ V. Lauria
Telephone number: (901) 794-8556

Emergency Medical Telephone Number: (901)794-8556

PRODUCT IDENTIFICATION

Specialty Adhesives Name: 3006
Product Class: SYNTHETIC RESIN based product in water
DOT Proper Shipping name: none DOT regulated

WARNING STATEMENTS: No specific warnings under normal use.
PRECAUTIONARY MEASURES Avoid temperature extremes during storage

EMERGENCY AND FIRST AID PROCEDURES

First Aid:

If in eye:	Flush immediately with water for 15 minutes. Consult a physician if irritation persists.
If on skin:	No hazard under normal use.
If vapors inhaled:	No hazard under normal use.
In case of fire:	Product non-flammable in liquid state. Use water spray, foam, dry chemical or carbon dioxide on dried product.
Spill or Leak:	Contain and remove with inert absorbent. Keep spill out of sewers.

HAZARDOUS INGREDIENTS

Material Name / CAS #	Level in product	OSHA PEL	ACGIH TLV (1994)
None hazardous.			

This MSDS is prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1919.1200). Unlisted ingredients are not "Hazardous" per this OSHA Standard and are considered to be trade secrets of Specialty Adhesives, INC.

NE -not established
NA -not applicable

OCCUPATIONAL CONTROL PROCEDURES

Eye Protection:	Wear safety glasses to reduce the potential for eye contact; chemical safety goggles are appropriate if splashing is likely. Have eye washes available where eye contact can occur.
Skin Protection:	No hazard under normal use.
Respiratory Protection:	not normally required.
Ventilation:	Standard industrial ventilation.

FIRE PROTECTION

Flash Point/Method:	Non-flammable
Appropriate Extinguishers:	Non-flammable in liquid state; use water spray, foam, dry chemical or carbon dioxide on dried product.
Special Fire Fighting Procedures:	Persons exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.
Unusual Fire and Explosion Hazards:	There is the possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers.

REACTIVITY DATA

Stability:	Stable
Incompatibility:	not established
Hazardous Decomposed Products:	Incomplete combustion can yield low molecular wt. hydrocarbons, carbon monoxide
Hazardous Polymerization:	will not occur.

EFFECTS OF OVEREXPOSURE

Eyes:	Direct eye contact with the product may cause irritation.
Skin:	Prolonged or repeated contact with liquid product may cause irritations.
Inhalation:	No hazard under normal use.
Chronic:	No hazard under normal use.
Existing Health Conditions Affected by exposure:	No known effects on other illnesses.

NA - not applicable
NE- not established

PHYSICAL DATA

Physical State:	White Liquid
Weight per Gallon:	9.1
PH:	4.0- 6.0
Boiling Range:	> 200 F
Soluble in Water:	Miscible

SPILL, LEAK & DISPOSAL INFORMATION

Spill or Leak Procedures:	Dike if necessary, contain spill with inert absorbent and transfer to containers for disposal. Keep spilled product out of sewers, watersheds or water systems.
Waste Disposal:	To the best of our knowledge, this product Does not meet the definition of hazardous waste under EPA Regulations 40 CFR 261. It does not contain any added raw materials with known levels of TCLP constituents as identified in section 261.24 of the above mentioned regulation. State or local regulations may apply if they are different from federal regulations. Check with local officials before disposal. Solidify and dispose of in an approved landfill.

STORAGE

Protect from freezing - product stability may be affected.

ADDITIONAL INFORMATION:

In storage, monomer vapors will migrate from the emulsion and establish an equilibrium between the headspace in the storage container and the liquid emulsion. Levels in excess of acceptable exposures can accumulate in non-vented headspaces above the emulsion. All procedures appropriate for a confined space entry should be completed prior to performing any work in a bulk storage tank.

REGULATORY INFORMATION

TSCA

All components of this product are registered under the regulations of the Toxic Substances Control Act.

SARA TITLE III

Section 313: This product contains the following toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

None Contained

This information must be included in all MSDS that are copied and distributed for this material.

NA- not applicable

NE- not established

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number	0766_005
Material name	**Jet Force Wasp & Hornet Killer**
Revision date	07-29-2013
Company information	Claire Manufacturing Co. 1005 S. Westgate Drive Addison, IL 60101 United States
Company phone	General Assistance 1-630-543-7600
Emergency telephone US	1-866-836-8855
Emergency telephone outside US	1-952-852-4646
Version #	02
Supersedes date	07-29-2013

2. Hazards Identification

Emergency overview

DANGER

CONTENTS UNDER PRESSURE.
Aerosol. Pressurized container may explode when exposed to heat or flame. May cause flash fire or explosion.

Will be easily ignited by heat, spark or flames. Harmful in contact with eyes. Irritating to skin. Irritating to respiratory system. Prolonged exposure may cause chronic effects.

OSHA regulatory status

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Eye contact may result in corneal injury. Contact with eyes may cause irritation. Moderately irritating to the eyes.
Skin	Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Harmful if absorbed through the skin.
Inhalation	Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Irritating to respiratory system. Prolonged inhalation may be harmful.
Ingestion	Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. May cause delayed lung damage.
Target organs	Blood. Cardiac. Central nervous system. Lungs. Respiratory system.
Chronic effects	Unconsciousness. Shortness of breath. Conjunctiva. Cyanosis (blue tissue condition, nails, lips, and/or skin). May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause delayed lung injury.
Signs and symptoms	Unconsciousness. Discomfort in the chest. Shortness of breath. Corneal damage. Narcosis. Cyanosis (blue tissue condition, nails, lips, and/or skin). Decrease in motor functions. Behavioral changes. Coughing. Conjunctivitis. Irritating to mouth, throat, and stomach. Skin irritation. Defatting of the skin. Rash.

3. Composition / Information on Ingredients

Hazardous components	CAS #	Percent
Synthetic Isoparaffinic Hydrocarbon	64742-47-8	80 - 90
Carbon Dioxide	124-38-9	2.5 - 10
Isopropyl Alcohol	67-63-0	2.5 - 10

Non-hazardous components	CAS #	Percent
d-Phenothrin	26002-80-2	0.1 - 1
Tetramethrin	7696-12-0	0.1 - 1
Other components below reportable levels		1 - 2.5

4. First Aid Measures

First aid procedures

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact
Get medical attention if irritation develops and persists. Remove and isolate contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes.

Inhalation
If inhalation of gas/fume/vapor/dust/mist from the material is excessive (air concentration is greater than the TLV or health effects are noticed), immediately remove the affected person(s) to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Ingestion
In the unlikely event of swallowing contact a physician or poison control center. Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. If material is ingested, immediately contact a poison control center. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician
Symptoms may be delayed.

General advice
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties
Flammable by OSHA criteria. Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media
Powder. Alcohol resistant foam. Dry chemicals. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

Specific hazards arising from the chemical
Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

Environmental precautions
Do not contaminate water.

Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Should not be released into the environment. Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Isolate area until gas has dispersed. Following product recovery, flush area with water. Scrub the area with detergent and water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the MSDS. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling	Will ignite if exposed to intensive heat or open air. Vapors may form explosive mixtures with air. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get this material in contact with eyes. Avoid contact with skin. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in area provided with appropriate exhaust ventilation.
Storage	Contents under pressure. The pressure in sealed containers can increase under the influence of heat. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep in an area equipped with sprinklers. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the MSDS). Level 3 Aerosol.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	BEI	40 mg/l

US. ACGIH Threshold Limit Values

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm
	TWA	5000 ppm
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm
Isopropyl Alcohol (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm

Engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Eye / face protection	Do not get in eyes. Face-shield. Wear safety glasses; chemical goggles (if splashing is possible).
Skin protection	Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection	If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.
General hygiene considerations	When using do not smoke. Do not get in eyes. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance	Compressed liquefied gas.
Auto-ignition temperature	450.44 °F (232.47 °C) estimated
Boiling point	438.64 °F (225.91 °C) estimated
Color	Colorless.
Flammability limits in air, upper, % by volume	12 % estimated
Flammability limits in air, lower, % by volume	0.7 % estimated
Flash point	212.16 °F (100.09 °C) estimated
Form	Aerosol.
Odor	Solvent.
Odor threshold	Not available.
pH	Not applicable estimated
Physical state	Gas.
Solubility (water)	Not available.
Specific gravity	0.829 estimated
Vapor pressure	90 - 110 psig @70F estimated
Other data	
Heat of combustion	38.77 kJ/g estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Exposure to air. Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Species	Test Results
Jet Force Wasp & Hornet Killer (CAS Mixture)		
Acute		
Dermal		
LD50	Rat	2237 mg/kg
Inhalation		
LC50	Rat	1371.2346 mg/l, 3 Hours, estimated
		6 mg/l/4h
Oral		
LD50	Dog	56453.8906 mg/kg, estimated
	Mouse	35447.2422 mg/kg, estimated
	Rabbit	59.196 g/kg, estimated
	Rat	
		53.8251 g/kg, estimated

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Document name:	(none)
Page number:	5
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ZEP MANUFACTURING COMPANY

ISSUE DATE: 02/14/00 AEROSOLVE II AEROSOL
SUPERSEDES: 04/21/00 PRODUCT NUMBER: 0181
Aerosol Solvent Degreaser

SECTION I - E M E R G E N C Y C O N T A C T S

MEDICAL EMERGENCY: TOLL FREE 1-877-541-2016 ALL CALLS RECORDED

TRANSPORTATION EMERGENCY: CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED

SECTION II - H A Z A R D O U S I N G R E D I E N T S

DESIGNATIONS	TLV (PPM)	EFFECTS (SEE REVERSE)	% IN PROD.
@** TRICHLOROETHYLENE ** acetylene trichloride; 1-chloro-2,2-dichloroethylene; CAS# 79-01-6; RTECS# KX4550000	50	CAR CNS IRR	> 90

@ IDENTIFIES CHEMICALS LISTED UNDER SARA-SECTION 313 FOR RELEASE REPORTING.

SECTION III - H E A L T H H A Z A R D D A T A

SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.

ACUTE EFFECTS OF OVEREXPOSURE:
Inhalation of vapor can produce central nervous system depression, characterized by dizziness, headache, nausea, cardiac and/or respiratory depression, and stupor. In extreme cases unconsciousness or death could result in poorly ventilated or confined spaces. Exposure to high concentrations of vapor can be irritating to mucous membranes, such as eyes and upper respiratory tract. Severe eye exposure to liquid can cause reversible eye damage. Skin contact may cause a burning sensation and reddening of the skin. Introduction of solvent to the lungs, as in aspiration of vomitus fluids, may cause chemical pneumonia. Exposure to this product may aggravate existing respiratory or cardiac conditions. Inhalation of aerosol mist may produce chemical pneumonia.

CHRONIC EFFECTS OF OVEREXPOSURE:
Repeated or prolonged contact by inhalation or skin absorption may produce liver or kidney damage or damage to the central nervous system, characterized by tingling or numbness in the extremities, blurred vision or confusion. Skin, which is defatted by repeated exposure to solvents, is more susceptible to irritation, infection, and dermatitis.
Trichloroethylene has been listed as a liver carcinogen. The results were observed when trichloroethylene was given orally to mice, but were not observed in rats or hamsters. Human relevance is questionable since the metabolic mechanism in mice does not apply in humans.

EST'D PEL/TLV: Not established PRIMARY ROUTES OF ENTRY: Inh, Skin.

HMIS CODES: HEALTH 2; FLAM. 0; REACT. 0; PERS. PROTECT. B ; CHRONIC HAZ. YES

ISSUE DATE: 02/14/00 AEROSOLVE II AEROSOL
SUPERSEDES: 04/21/00 PRODUCT NUMBER: 0181
Aerosol Solvent Degreaser

SECTION III - H E A L T H H A Z A R D D A T A (CONTINUED)

FIRST AID PROCEDURES:

SKIN : Wash contaminated skin thoroughly with soap or a mild detergent. Apply a skin cream with lanolin. Get medical attention if irritation persists.

EYES : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.

INHALE: Move exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Get medical attention immediately.

INGEST: This route of exposure is not likely due to product nature.

SECTION IV - S P E C I A L P R O T E C T I O N I N F O R M A T I O N

PROTECTIVE CLOTHING : Wear viton gloves or use gloves with demonstrated resistance to the ingredients in this product.

EYE PROTECTION : Use tight-fitting safety glasses. Contact lenses should not be worn when working with this material.

RESPIRATORY PROTECTION: When exposure levels exceed the PEL/TLV, use a self-contained or supplied air respirator.

VENTILATION : Provide local exhaust/ventilation as needed to keep concentration of vapors below exposure limits (PEL/TLV).

SECTION V - P H Y S I C A L D A T A (FOR FILL MATERIAL ONLY)

BOILING POINT (F)	: 189	SPECIFIC GRAVITY	: 1.455
VAPOR PRESSURE(MMHG)	: ~60	EVAPORATION RATE(ETHER =1)	: 3.1
VAPOR DENSITY(AIR=1)	: N/D	PH(CONCENTRATE)	: N/A
SOLUBILITY IN WATER	: NEGLIGIBLE	PH(USE DILUTION OF N/A)	: N/A

VOC CONTENT (CONCENTRATE) 96.9%

APPEARANCE AND ODOR :A CLEAR, COLORLESS LIQUID WITH A MILD SOLVENT ODOR.

SECTION VI - F I R E A N D E X P L O S I O N D A T A

FLASH POINT(F) (METHOD USED): NOT FLAMMABLE (CSMA)

FLAMMABLE LIMITS LEL 8.0 UEL 10.5

EXTINGUISHING MEDIA : Carbon dioxide, dry chemical, and water fog.

SPECIAL FIRE FIGHTING: Wear self-contained positive pres. breathing apparatus.

UNUSUAL FIRE HAZARDS : None

SECTION VII - R E A C T I V I T Y D A T A

STABILITY : Stable

INCOMPATIBILITY(AVOID) : Strong alkalis, oxidizers, and active metals.

POLYMERIZATION : Will not occur.

HAZARDOUS DECOMPOSITION: Carbon dioxide,carbon monoxide, hydrogen chloride, and

small amounts of phosgene & chlorine gas.

SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Observe safety precautions in sections 4 & 9 during spill clean-up. Large spills are unlikely due to packaging. Spill may be absorbed on an inert absorbent material, and placed in a suitable container for disposal. Wash area thoroughly with a detergent solution and rinse well with water.

SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S (CONTINUED)

WASTE DISPOSAL METHOD:
Product is consumed in use. Do not crush, puncture or incinerate spent containers. Large numbers of aerosol containers may require handling as a hazardous waste, but in most states total hazardous waste quantities less than 220 lbs per month may allow disposal in a chemical or industrial waste landfill. Consult local, state and federal agencies for the proper disposal method in your area.

RCRA HAZ. WASTE NOS.: Unused product - U228

SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:
Do not store at temperatures above 120F (39C) or in direct sunlight. Do not puncture or incinerate container.
Do not breathe spray mists or vapors.
Vapors are heavier than air and will accumulate at low points. Ventilation should include floor level exhausting.
Keep out of the reach of children.
Clothing or shoes which become contaminated with substance should be removed promptly and not reworn until thoroughly cleaned.

SECTION X - R E G U L A T O R Y I N F O R M A T I O N

DOT PROPER SHIP NAME: CONSUMER COMMODITY,
NOTE: DOT information applies to larger package sizes of affected products.
For some products, DOT may require alternate names and labeling in accordance with packaging group requirements.
DOT HAZARD CLASS: ORM-D DOT PACKING GROUP:
DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: ORM-D
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): TRICHLOROETHYLENE - 100#

Date Last Reviewed by Compliance Services : 09/26/00

NOTICE

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APPENDIX B
Canister Sampling Field Data Sheet

Intern Temp 64°f 1/28/14 / 1/29/14 MacBeth

Canister Sampling Field Data Sheet

Page 1 of 1

SUMMA AIR SAMPLING WORK SHEET

Site: MACBeth Site#: 2MAC0101
Samplers: JRM / JWP Work Assignment Manager:
Date: 1/28/14 - 1/29/14 Project Leader: SYW
Helium 0 550

Sample #	SG-2	IA-2	SG-3	IA-3	TRIP BLANK
Location	Outside INK Room	Outside INK Room	Near Shipping Door	Near Shipping Door	
SUMMA ID	M133	M003	M022	M165	M114
Orifice Used	MC211	MC109	MC210	MC076	MC134
Analysis/Method	1				
Time (Start)	11:46	11:50	14:34	14:39	
Time (Stop)	12.05	11:47	11.10	1415	
Total Time					
SUMMA WENT TO AMBIENT	YES/NO	YES/NO	YES/NO	YES/NO	YES/NO
Pressure Gauge	-30+	-30+	-30	-30	
Pressure Gauge	-1.5	-2	0	-2	
Flow Rate (Pre)					
Flow Rate (Post)					
Flow Rate (Average)					

MET Station On-site? Y / N

General Comments: Helium "0" on SG-2
Helium Initially 550 on SG3 on First Attempt
Helium = 200 PPM on Second Attempt at SG-3

APPENDIX C
Laboratory Analytical Data (January 2014)

New England ACCUTEST LABORATORIES

02/14/14

Technical Report for

H2M Associates, Inc

Macbeth, 617 Little Britain, New Windsor, NY

2MAC0101

Accutest Job Number: MC27979

Sampling Date: 01/29/14

Report to:

H2M Associates, Inc

jmcnanna@h2m.com

ATTN: Joe McNanna

Total number of pages in report: **141**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Matthew Morrell 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

-1-

Sample Summary

H2M Associates, Inc

Job No: MC27979

Macbeth, 617 Little Britain, New Windsor, NY
Project No: 2MAC0101

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC27979-1	01/29/14	11:05	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-2
MC27979-1A	01/29/14	11:05	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-2
MC27979-2	01/29/14	11:47	JRM	01/30/14	AIR	Ambient Air Comp.	IA-2
MC27979-2A	01/29/14	11:47	JRM	01/30/14	AIR	Ambient Air Comp.	IA-2
MC27979-3	01/29/14	11:10	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-3
MC27979-3A	01/29/14	11:10	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-3
MC27979-4	01/29/14	14:15	JRM	01/30/14	AIR	Ambient Air Comp.	IA-3
MC27979-4A	01/29/14	14:15	JRM	01/30/14	AIR	Ambient Air Comp.	IA-3
MC27979-5	01/29/14	00:00	JRM	01/30/14	AIR	Trip Blank Air	TRIP BLANK
MC27979-5A	01/29/14	00:00	JRM	01/30/14	AIR	Trip Blank Air	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EnviroTrac	**Job No**	MC28070
Site:	Hess:#21307 110 Cambridge St., Burlington, MA	**Report Date**	2/14/2014 3:55:18 PM

5 Sample(s) were collected on 02/03/2014 and were received at Accutest on 02/03/2014 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC28070. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method MADEP VPH REV 1.1

Matrix AQ **Batch ID:** GBD3007

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ **Batch ID:** GBD3008

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC28070).

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC27979-1	**SG-2**					
Acetone		9.5	0.50	0.17	ppbv	TO-15
Benzene		0.18 J	0.50	0.091	ppbv	TO-15
Chloroform		0.12 J	0.50	0.10	ppbv	TO-15
Chloromethane		0.24 J	0.50	0.074	ppbv	TO-15
Carbon tetrachloride		0.34	0.20	0.092	ppbv	TO-15
Dichlorodifluoromethane		1.3	0.50	0.034	ppbv	TO-15
trans-1,2-Dichloroethylene		0.099 J	0.20	0.071	ppbv	TO-15
Ethanol		17.3	0.50	0.13	ppbv	TO-15
Ethylbenzene		0.25 J	0.50	0.089	ppbv	TO-15
Ethyl Acetate		0.63	0.50	0.12	ppbv	TO-15
Freon 113		63.8	2.5	0.45	ppbv	TO-15
Heptane		0.20 J	0.50	0.10	ppbv	TO-15
Hexane		0.13 J	0.50	0.090	ppbv	TO-15
Isopropyl Alcohol		5.4	0.50	0.10	ppbv	TO-15
Methylene chloride		0.23 J	0.50	0.088	ppbv	TO-15
Methyl ethyl ketone		1.5	0.50	0.15	ppbv	TO-15
Methyl Isobutyl Ketone		0.30 J	0.50	0.10	ppbv	TO-15
Propylene		7.5	0.50	0.048	ppbv	TO-15
1,1,1-Trichloroethane		41.8	1.0	0.40	ppbv	TO-15
Tetrachloroethylene		0.48	0.20	0.098	ppbv	TO-15
Toluene		2.8	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane		3.6	0.50	0.088	ppbv	TO-15
Vinyl Acetate		0.62	0.50	0.11	ppbv	TO-15
m,p-Xylene		0.62	0.50	0.20	ppbv	TO-15
o-Xylene		0.18 J	0.50	0.11	ppbv	TO-15
Xylenes (total)		0.80	0.50	0.11	ppbv	TO-15
Acetone		23	1.2	0.40	ug/m3	TO-15
Benzene		0.58 J	1.6	0.29	ug/m3	TO-15
Chloroform		0.59 J	2.4	0.49	ug/m3	TO-15
Chloromethane		0.50 J	1.0	0.15	ug/m3	TO-15
Carbon tetrachloride		2.1	1.3	0.58	ug/m3	TO-15
Dichlorodifluoromethane		6.4	2.5	0.17	ug/m3	TO-15
trans-1,2-Dichloroethylene		0.39 J	0.79	0.28	ug/m3	TO-15
Ethanol		32.5	0.94	0.24	ug/m3	TO-15
Ethylbenzene		1.1 J	2.2	0.39	ug/m3	TO-15
Ethyl Acetate		2.3	1.8	0.43	ug/m3	TO-15
Freon 113		489	19	3.4	ug/m3	TO-15
Heptane		0.82 J	2.0	0.41	ug/m3	TO-15
Hexane		0.46 J	1.8	0.32	ug/m3	TO-15
Isopropyl Alcohol		13	1.2	0.25	ug/m3	TO-15
Methylene chloride		0.80 J	1.7	0.31	ug/m3	TO-15
Methyl ethyl ketone		4.4	1.5	0.44	ug/m3	TO-15
Methyl Isobutyl Ketone		1.2 J	2.0	0.41	ug/m3	TO-15

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Propylene		13	0.86	0.082	ug/m3	TO-15
1,1,1-Trichloroethane		228	5.5	2.2	ug/m3	TO-15
Tetrachloroethylene		3.3	1.4	0.66	ug/m3	TO-15
Toluene		11	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane		20	2.8	0.49	ug/m3	TO-15
Vinyl Acetate		2.2	1.8	0.39	ug/m3	TO-15
m,p-Xylene		2.7	2.2	0.87	ug/m3	TO-15
o-Xylene		0.78 J	2.2	0.48	ug/m3	TO-15
Xylenes (total)		3.5	2.2	0.48	ug/m3	TO-15
MC27979-1A	**SG-2**					
Trichloroethylene		0.85	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene		4.6	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-2	**IA-2**					
Acetone		13.2	0.50	0.17	ppbv	TO-15
Benzene		0.57	0.50	0.091	ppbv	TO-15
Cyclohexane		0.14 J	0.50	0.082	ppbv	TO-15
Dichlorodifluoromethane		0.51	0.50	0.034	ppbv	TO-15
Ethanol		44.7	2.5	0.63	ppbv	TO-15
Ethyl Acetate		1.5	0.50	0.12	ppbv	TO-15
Heptane		0.91	0.50	0.10	ppbv	TO-15
Hexane		0.21 J	0.50	0.090	ppbv	TO-15
Isopropyl Alcohol		8.7	0.50	0.10	ppbv	TO-15
Methylene chloride		0.23 J	0.50	0.088	ppbv	TO-15
Methyl ethyl ketone		1.6	0.50	0.15	ppbv	TO-15
Methyl Isobutyl Ketone		0.77	0.50	0.10	ppbv	TO-15
Tertiary Butyl Alcohol		0.71	0.50	0.085	ppbv	TO-15
Tetrahydrofuran		0.28 J	0.50	0.14	ppbv	TO-15
Toluene		9.7	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane		0.91	0.50	0.088	ppbv	TO-15
Vinyl Acetate		1.9	0.50	0.11	ppbv	TO-15
m,p-Xylene		0.37 J	0.50	0.20	ppbv	TO-15
o-Xylene		0.16 J	0.50	0.11	ppbv	TO-15
Xylenes (total)		0.53	0.50	0.11	ppbv	TO-15
Acetone		31.4	1.2	0.40	ug/m3	TO-15
Benzene		1.8	1.6	0.29	ug/m3	TO-15
Cyclohexane		0.48 J	1.7	0.28	ug/m3	TO-15
Dichlorodifluoromethane		2.5	2.5	0.17	ug/m3	TO-15
Ethanol		84.1	4.7	1.2	ug/m3	TO-15
Ethyl Acetate		5.4	1.8	0.43	ug/m3	TO-15
Heptane		3.7	2.0	0.41	ug/m3	TO-15
Hexane		0.74 J	1.8	0.32	ug/m3	TO-15

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Isopropyl Alcohol	21	1.2	0.25	ug/m3	TO-15
Methylene chloride	0.80 J	1.7	0.31	ug/m3	TO-15
Methyl ethyl ketone	4.7	1.5	0.44	ug/m3	TO-15
Methyl Isobutyl Ketone	3.2	2.0	0.41	ug/m3	TO-15
Tertiary Butyl Alcohol	2.2	1.5	0.26	ug/m3	TO-15
Tetrahydrofuran	0.82 J	1.5	0.41	ug/m3	TO-15
Toluene	37	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane	5.1	2.8	0.49	ug/m3	TO-15
Vinyl Acetate	6.7	1.8	0.39	ug/m3	TO-15
m,p-Xylene	1.6 J	2.2	0.87	ug/m3	TO-15
o-Xylene	0.69 J	2.2	0.48	ug/m3	TO-15
Xylenes (total)	2.3	2.2	0.48	ug/m3	TO-15
MC27979-2A IA-2					
Trichloroethylene	0.010	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene	0.054	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-3 SG-3					
Acetone	6.5	0.50	0.17	ppbv	TO-15
Dichlorodifluoromethane	32.0	0.50	0.034	ppbv	TO-15
Freon 113	16.8	0.50	0.091	ppbv	TO-15
Hexane	0.12 J	0.50	0.090	ppbv	TO-15
Propylene	2.1	0.50	0.048	ppbv	TO-15
1,1,1-Trichloroethane	34.8	0.20	0.080	ppbv	TO-15
1,2,4-Trimethylbenzene	0.47 J	0.50	0.068	ppbv	TO-15
Tetrachloroethylene	79.7	2.0	0.98	ppbv	TO-15
Toluene	0.41 J	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane	9.0	0.50	0.088	ppbv	TO-15
m,p-Xylene	0.28 J	0.50	0.20	ppbv	TO-15
Xylenes (total)	0.28 J	0.50	0.11	ppbv	TO-15
Acetone	15	1.2	0.40	ug/m3	TO-15
Dichlorodifluoromethane	158	2.5	0.17	ug/m3	TO-15
Freon 113	129	3.8	0.70	ug/m3	TO-15
Hexane	0.42 J	1.8	0.32	ug/m3	TO-15
Propylene	3.6	0.86	0.082	ug/m3	TO-15
1,1,1-Trichloroethane	190	1.1	0.44	ug/m3	TO-15
1,2,4-Trimethylbenzene	2.3 J	2.5	0.33	ug/m3	TO-15
Tetrachloroethylene	540	14	6.6	ug/m3	TO-15
Toluene	1.5 J	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane	51	2.8	0.49	ug/m3	TO-15
m,p-Xylene	1.2 J	2.2	0.87	ug/m3	TO-15
Xylenes (total)	1.2 J	2.2	0.48	ug/m3	TO-15

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC27979-3A	**SG-3**					
Trichloroethylene		0.11	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene		0.59	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-4	**IA-3**					
Acetone		7.5	0.50	0.17	ppbv	TO-15
Benzene		0.47 J	0.50	0.091	ppbv	TO-15
Chloromethane		0.58	0.50	0.074	ppbv	TO-15
Dichlorodifluoromethane		0.47 J	0.50	0.034	ppbv	TO-15
Heptane		0.47 J	0.50	0.10	ppbv	TO-15
Methylene chloride		0.21 J	0.50	0.088	ppbv	TO-15
Methyl ethyl ketone		0.80	0.50	0.15	ppbv	TO-15
Toluene		5.2	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane		0.39 J	0.50	0.088	ppbv	TO-15
Vinyl Acetate		1.3	0.50	0.11	ppbv	TO-15
Acetone		18	1.2	0.40	ug/m3	TO-15
Benzene		1.5 J	1.6	0.29	ug/m3	TO-15
Chloromethane		1.2	1.0	0.15	ug/m3	TO-15
Dichlorodifluoromethane		2.3 J	2.5	0.17	ug/m3	TO-15
Heptane		1.9 J	2.0	0.41	ug/m3	TO-15
Methylene chloride		0.73 J	1.7	0.31	ug/m3	TO-15
Methyl ethyl ketone		2.4	1.5	0.44	ug/m3	TO-15
Toluene		20	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane		2.2 J	2.8	0.49	ug/m3	TO-15
Vinyl Acetate		4.6	1.8	0.39	ug/m3	TO-15
MC27979-4A	**IA-3**					
Trichloroethylene		0.013	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene		0.070	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-5	**TRIP BLANK**					
Acetone		0.30 J	0.50	0.17	ppbv	TO-15
Acetone		0.71 J	1.2	0.40	ug/m3	TO-15
MC27979-5A	**TRIP BLANK**					

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: SG-2
Lab Sample ID: MC27979-1
Matrix: AIR - Soil Vapor Comp. Summa ID: M133
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26771.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2	J26776.D	5	02/13/14	JB	n/a	n/a	MSJ1381

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	9.5	0.50	0.17	ppbv		23	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	0.18	0.50	0.091	ppbv	J	0.58	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	0.12	0.50	0.10	ppbv	J	0.59	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.24	0.50	0.074	ppbv	J	0.50	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.34	0.20	0.092	ppbv		2.1	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	1.3	0.50	0.034	ppbv		6.4	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.099	0.20	0.071	ppbv	J	0.39	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-2
Lab Sample ID: MC27979-1
Matrix: AIR - Soil Vapor Comp. Summa ID: M133
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	17.3	0.50	0.13	ppbv		32.5	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	0.25	0.50	0.089	ppbv	J	1.1	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	0.63	0.50	0.12	ppbv		2.3	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	63.8 [a]	2.5	0.45	ppbv		489 [a]	19	3.4	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	0.20	0.50	0.10	ppbv	J	0.82	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	0.13	0.50	0.090	ppbv	J	0.46	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	5.4	0.50	0.10	ppbv		13	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.23	0.50	0.088	ppbv	J	0.80	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	1.5	0.50	0.15	ppbv		4.4	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.30	0.50	0.10	ppbv	J	1.2	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	7.5	0.50	0.048	ppbv		13	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	41.8 [a]	1.0	0.40	ppbv		228 [a]	5.5	2.2	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.48	0.20	0.098	ppbv		3.3	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	2.8	0.50	0.11	ppbv		11	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	3.6	0.50	0.088	ppbv		20	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	0.62	0.50	0.11	ppbv		2.2	1.8	0.39	ug/m3
	106.2	m,p-Xylene	0.62	0.50	0.20	ppbv		2.7	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.18	0.50	0.11	ppbv	J	0.78	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	0.80	0.50	0.11	ppbv		3.5	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	70%	100%	50-129%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-2
Lab Sample ID: MC27979-1A
Matrix: AIR - Soil Vapor Comp. Summa ID: M133
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25753.D	1	02/13/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.85	0.0050	0.0022	ppbv		4.6	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-2
Lab Sample ID: MC27979-2
Matrix: AIR - Ambient Air Comp. Summa ID: M241,M003
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26777.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2	J26781.D	5	02/14/14	JB	n/a	n/a	MSJ1382

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	13.2	0.50	0.17	ppbv		31.4	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	0.57	0.50	0.091	ppbv		1.8	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	0.14	0.50	0.082	ppbv	J	0.48	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.51	0.50	0.034	ppbv		2.5	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-2
Lab Sample ID: MC27979-2
Matrix: AIR - Ambient Air Comp. Summa ID: M241,M003
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	44.7 [a]	2.5	0.63	ppbv		84.1 [a]	4.7	1.2	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	1.5	0.50	0.12	ppbv		5.4	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	0.91	0.50	0.10	ppbv		3.7	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	0.21	0.50	0.090	ppbv	J	0.74	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	8.7	0.50	0.10	ppbv		21	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.23	0.50	0.088	ppbv	J	0.80	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	1.6	0.50	0.15	ppbv		4.7	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.77	0.50	0.10	ppbv		3.2	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	ND	0.50	0.048	ppbv		ND	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.71	0.50	0.085	ppbv		2.2	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	0.28	0.50	0.14	ppbv	J	0.82	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	9.7	0.50	0.11	ppbv		37	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.91	0.50	0.088	ppbv		5.1	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	1.9	0.50	0.11	ppbv		6.7	1.8	0.39	ug/m3
	106.2	m,p-Xylene	0.37	0.50	0.20	ppbv	J	1.6	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.16	0.50	0.11	ppbv	J	0.69	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	0.53	0.50	0.11	ppbv		2.3	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	69%	88%	50-129%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-2
Lab Sample ID: MC27979-2A
Matrix: AIR - Ambient Air Comp. Summa ID: M003
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25755.D	1	02/13/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.010	0.0050	0.0022	ppbv		0.054	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-3
Lab Sample ID: MC27979-3
Matrix: AIR - Soil Vapor Comp. Summa ID: M022
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26772.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2	J26773.D	10	02/13/14	JB	n/a	n/a	MSJ1381

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	6.5	0.50	0.17	ppbv		15	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	ND	0.50	0.091	ppbv		ND	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	32.0	0.50	0.034	ppbv		158	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-3
Lab Sample ID: MC27979-3
Matrix: AIR - Soil Vapor Comp. Summa ID: M022
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	16.8	0.50	0.091	ppbv		129	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	0.12	0.50	0.090	ppbv	J	0.42	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	2.1	0.50	0.048	ppbv		3.6	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	34.8	0.20	0.080	ppbv		190	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.47	0.50	0.068	ppbv	J	2.3	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	79.7 [a]	2.0	0.98	ppbv		540 [a]	14	6.6	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	0.41	0.50	0.11	ppbv	J	1.5	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	9.0	0.50	0.088	ppbv		51	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	0.39	ug/m3
	106.2	m,p-Xylene	0.28	0.50	0.20	ppbv	J	1.2	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	0.28	0.50	0.11	ppbv	J	1.2	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%	87%	50-129%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-3
Lab Sample ID: MC27979-3A
Matrix: AIR - Soil Vapor Comp. Summa ID: M022
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25756.D	1	02/13/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.11	0.0050	0.0022	ppbv		0.59	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-3
Lab Sample ID: MC27979-4
Matrix: AIR - Ambient Air Comp. Summa ID: M165
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	7.5	0.50	0.17	ppbv		18	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	0.47	0.50	0.091	ppbv	J	1.5	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.58	0.50	0.074	ppbv		1.2	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.47	0.50	0.034	ppbv	J	2.3	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-3
Lab Sample ID: MC27979-4
Matrix: AIR - Ambient Air Comp. Summa ID: M165
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	0.47	0.50	0.10	ppbv	J	1.9	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.21	0.50	0.088	ppbv	J	0.73	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.80	0.50	0.15	ppbv		2.4	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	ND	0.50	0.048	ppbv		ND	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	5.2	0.50	0.11	ppbv		20	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.39	0.50	0.088	ppbv	J	2.2	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	1.3	0.50	0.11	ppbv		4.6	1.8	0.39	ug/m3
	106.2	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		50-129%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-3
Lab Sample ID: MC27979-4A
Matrix: AIR - Ambient Air Comp. Summa ID: M165
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25758.D	1	02/14/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.013	0.0050	0.0022	ppbv		0.070	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC27979-5
Matrix: AIR - Trip Blank Air Summa ID: M114
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26770.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2 [a]	J26769.D	1	02/13/14	JB	n/a	n/a	MSJ1381

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	0.30	0.50	0.17	ppbv	J	0.71	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	ND	0.50	0.091	ppbv		ND	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC27979-5
Matrix: AIR - Trip Blank Air Summa ID: M114
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	ND	0.50	0.048	ppbv		ND	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	ND	0.50	0.11	ppbv		ND	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	0.39	ug/m3
	106.2	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	92%	44% [b]	50-129%

(a) Confirmation run for internal standard areas.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC27979-5	**Date Sampled:**	01/29/14
Matrix:	AIR - Trip Blank Air Summa ID: M114	**Date Received:**	01/30/14
Method:	TO-15	**Percent Solids:**	n/a
Project:	Macbeth, 617 Little Britain, New Windsor, NY		

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units

(b) Outside control limits. Results confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC27979-5A
Matrix: AIR - Trip Blank Air Summa ID: M114
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25757.D	1	02/14/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	ND	0.0050	0.0022	ppbv		ND	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log
- Sample Tracking Chronicle

CHAIN OF CUSTODY

ACCUTEST Laboratories

Air Sampling Field Data Sheet

FED-EX Tracking #:

Bottle Order Control #: MC27979

Lab Quote #:

Lab Job #: MC16425

PAGE 1 OF 1

Client / Reporting Information

Company Name: H2M Associates INC

Address: 119 Cherry Hill Road Suite 200

City: Parsippany State: NJ Zip: 07054

Project Contact: Joe McNanna E-mail: JMcNanna@H2M.com

Phone #: Fax #:

Project Name: MACBeth

Street: 617 Little Britain

City: New Windsor State: NY

Project #: 2MAC0101

Client Purchase Order #:

Sampler(s) Name(s): Joe McNanna Jusen Potosnak

Weather Parameters

Temperature (Fahrenheit)

Start: 12 Maximum: 28

Stop: 28 Minimum: 8

Atmoshpheric Pressure (inches of Hg)

Start: 29.70 Maximum: –

Stop: 30.05 Minimum: 30.05

Other weather comment:

Requested Analysis

Standard TO-15 Reporting List

MA DEP APH

V7015 SIMS L (TCE - PCE - TCA)

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor(I) Soil Vap(SV) Ambient(A)	Sampling Equipment Info: Canister Serial #	Canister Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init	Standard TO-15 Reporting List	MA DEP APH	V7015 SIMS L (TCE - PCE - TCA)
-1	SG-2	SV	M133	6L	MC211	1/28/14	1146	-30	62	JRM	1/29/14	1105	-1.5	65	JRM	X		X
-2	IA-2	A	M003	6L	MC109	1/28/14	1150	-30	62	JRM	1/29/14	1147	-2	65	JRM	X		X
-3	SG-3	SV	M022	6L	MC210	1/28/14	1434	-30	62	JRM	1/29/14	1110	0	65	JRM	X		X
-4	IA-3	A	M165	6L	MC076	1/28/14	1439	-30	62	JRM	1/29/14	1415	-2	65	JRM	X		X
-5	Trip Blank	–	M144	6L	MC134	–	–	–	62	JRM	–	–	–	65	JRM	X		X

Turnaround Time (Business days)

Standard - 15 Days	X
10 Day	
5 Day	
3 Day	
2 Day	
1 Day	
Other	

Approved By:

Date:

Data Deliverable Information

Comm A	
Comm B	X
Full T1	
Other:	

Comments / Remarks

NYS Category B Full data Package need Following Reporting limits

<1.25 ug/M3 Trichloroethene (TCE)

< 3 ug/M3 Terrachloroethene (PCE)

<3 ug/M3 Trichloroethane (111 TCA)

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Joe McNanna	1/29/14 16:50	1 FX	2 FX	1/30/14 9:30	2
3		3	4		4
5		5	Custody Seal #		

Tel: (50) 4 1-6200
Fax: (50)4 1-7753

MC27979: Chain of Custody

Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC27979 **Client:** H2M **Immediate Client Services Action Required:** Yes

Date / Time Received: 1/30/2014 **Delivery Method:**

Project: MACBETH **No. Coolers:** **Airbill #'s:**

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared gun	
3. Cooler media:	Ice (bag)	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☐	
2. Trip Blank listed on COC:	☐	☐	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume rec'd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

-5 Trip Blank Summa cannister is M114 not M144 as listed on the COC .

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC27979

CSR: mattm **Response Date:** 1/30/2014

Response: Client Notified

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

MC27979: Chain of Custody
Page 3 of 3

Summa Canister and Flow Controller Log

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Received: 01/30/14

SUMMA CANISTERS

Shipping							Receiving						
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
M133	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-1	02/06/14	JB	0			1
M003	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-2	02/06/14	JB	0			1
M022	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-3	02/06/14	JB		.4		1
M165	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-4	02/06/14	JB	0			1
M114	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-5	02/06/14	JB	25			1

FLOW CONTROLLERS / OTHER

Shipping					Receiving			
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min	Equipment Type
MC076	01/24/14	AA	4.3	24	02/06/14	JB	5	Flow Controller
MC109	01/24/14	AA	4.3	24	02/06/14	JB	5.9	Flow Controller
MC134	01/24/14	AA	4.3	24	02/06/14	JB	6	Flow Controller
MC210	01/24/14	AA	4.3	24	02/06/14	JB	5.2	Flow Controller
MC211	01/24/14	AA	4.3	24	02/06/14	JB	5.6	Flow Controller

Accutest Bottle Order(s):
AA/01-24-14/H2M/AIR SAMPL

Prep Date	Room Temp(F)	Bar Pres "Hg
01/24/14	70	29.92

Internal Sample Tracking Chronicle

H2M Associates, Inc

Job No: MC27979

Macbeth, 617 Little Britain, New Windsor, NY
Project No: 2MAC0101

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27979-1	Collected: 29-JAN-14 11:05 By: JRM SG-2		Received: 30-JAN-14 By:			
MC27979-1	TO-15	13-FEB-14 07:26	JB			VTO15STD
MC27979-1	TO-15	13-FEB-14 11:46	JB			VTO15STD
MC27979-2	Collected: 29-JAN-14 11:47 By: JRM IA-2		Received: 30-JAN-14 By:			
MC27979-2	TO-15	13-FEB-14 12:29	JB			VTO15STD
MC27979-2	TO-15	14-FEB-14 09:14	JB			VTO15STD
MC27979-3	Collected: 29-JAN-14 11:10 By: JRM SG-3		Received: 30-JAN-14 By:			
MC27979-3	TO-15	13-FEB-14 08:16	JB			VTO15STD
MC27979-3	TO-15	13-FEB-14 09:12	JB			VTO15STD
MC27979-4	Collected: 29-JAN-14 14:15 By: JRM IA-3		Received: 30-JAN-14 By:			
MC27979-4	TO-15	13-FEB-14 10:35	JB			VTO15STD
MC27979-5	Collected: 29-JAN-14 00:00 By: JRM TRIP BLANK		Received: 30-JAN-14 By:			
MC27979-5	TO-15	13-FEB-14 05:14	JB			VTO15STD
MC27979-5	TO-15	13-FEB-14 06:41	JB			VTO15STD
MC27979-1A	Collected: 29-JAN-14 11:05 By: JRM SG-2		Received: 30-JAN-14 By:			
MC27979-1A	TO-15 BY SIM	13-FEB-14 21:09	AA			VTO15SIMSL
MC27979-2A	Collected: 29-JAN-14 11:47 By: JRM IA-2		Received: 30-JAN-14 By:			
MC27979-2A	TO-15 BY SIM	13-FEB-14 22:37	AA			VTO15SIMSL

Internal Sample Tracking Chronicle

H2M Associates, Inc

Job No: MC27979

Macbeth, 617 Little Britain, New Windsor, NY
Project No: 2MAC0101

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27979-3A	Collected: 29-JAN-14 11:10 By: JRM SG-3			Received: 30-JAN-14	By:	
MC27979-3A	TO-15 BY SIM	13-FEB-14 23:21	AA			VTO15SIMSL
MC27979-4A	Collected: 29-JAN-14 14:15 By: JRM IA-3			Received: 30-JAN-14	By:	
MC27979-4A	TO-15 BY SIM	14-FEB-14 07:13	AA			VTO15SIMSL
MC27979-5A	Collected: 29-JAN-14 00:00 By: JRM TRIP BLANK			Received: 30-JAN-14	By:	
MC27979-5A	TO-15 BY SIM	14-FEB-14 00:05	AA			VTO15SIMSL

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Initial Calibration RT/ISTD Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-MB	J26767.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-MB	J26767.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	97%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1382-MB	J26780.D	1	02/14/14	JB	n/a	n/a	MSJ1382

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-2

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	72%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-MB	J26612.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-MB	J26612.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	77%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-MB	J26718.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-MB	J26718.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	72%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSQ1121-MB	Q25750.D	1	02/13/14	AA	n/a	n/a	MSQ1121

The QC reported here applies to the following samples: **Method:** TO-15 BY SIM

MC27979-1A, MC27979-2A, MC27979-3A, MC27979-4A, MC27979-5A

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethylene	ND	0.0050	0.0022	ppbv		ND	0.027	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	105%	57-139%

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-BS	J26766B.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
67-64-1	Acetone	10	9.1	91	70-130
106-99-0	1,3-Butadiene	10	8.1	81	70-130
71-43-2	Benzene	10	8.1	81	70-130
75-27-4	Bromodichloromethane	10	8.9	89	70-130
75-25-2	Bromoform	10	8.3	83	70-130
74-83-9	Bromomethane	10	8.4	84	70-130
593-60-2	Bromoethene	10	8.2	82	70-130
100-44-7	Benzyl Chloride	10	8.7	87	70-130
75-15-0	Carbon disulfide	10	8.4	84	70-130
108-90-7	Chlorobenzene	10	8.1	81	70-130
75-00-3	Chloroethane	10	8.4	84	70-130
67-66-3	Chloroform	10	8.9	89	70-130
74-87-3	Chloromethane	10	9.0	90	70-130
107-05-1	3-Chloropropene	10	8.6	86	70-130
95-49-8	2-Chlorotoluene	10	8.2	82	70-130
56-23-5	Carbon tetrachloride	10	8.2	82	70-130
110-82-7	Cyclohexane	10	8.1	81	70-130
75-34-3	1,1-Dichloroethane	10	9.3	93	70-130
75-35-4	1,1-Dichloroethylene	10	8.0	80	70-130
106-93-4	1,2-Dibromoethane	10	8.3	83	70-130
107-06-2	1,2-Dichloroethane	10	8.6	86	70-130
78-87-5	1,2-Dichloropropane	10	8.2	82	70-130
123-91-1	1,4-Dioxane	10	9.1	91	70-130
75-71-8	Dichlorodifluoromethane	10	9.3	93	70-130
124-48-1	Dibromochloromethane	10	8.2	82	70-130
156-60-5	trans-1,2-Dichloroethylene	10	8.4	84	70-130
156-59-2	cis-1,2-Dichloroethylene	10	8.8	88	70-130
10061-01-5	cis-1,3-Dichloropropene	10	8.6	86	70-130
541-73-1	m-Dichlorobenzene	10	8.4	84	70-130
95-50-1	o-Dichlorobenzene	10	8.1	81	70-130
106-46-7	p-Dichlorobenzene	10	8.1	81	70-130
10061-02-6	trans-1,3-Dichloropropene	10	8.8	88	70-130
64-17-5	Ethanol	10	9.4	94	70-130
100-41-4	Ethylbenzene	10	8.1	81	70-130
141-78-6	Ethyl Acetate	10	7.5	75	70-130
622-96-8	4-Ethyltoluene	10	8.5	85	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-BS	J26766B.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
76-13-1	Freon 113	10	8.2	82	70-130
76-14-2	Freon 114	10	8.1	81	70-130
142-82-5	Heptane	10	8.6	86	70-130
87-68-3	Hexachlorobutadiene	10	7.2	72	70-130
110-54-3	Hexane	10	8.5	85	70-130
591-78-6	2-Hexanone	10	8.9	89	70-130
67-63-0	Isopropyl Alcohol	10	9.4	94	70-130
75-09-2	Methylene chloride	10	8.0	80	70-130
78-93-3	Methyl ethyl ketone	10	9.6	96	70-130
108-10-1	Methyl Isobutyl Ketone	10	9.1	91	70-130
1634-04-4	Methyl Tert Butyl Ether	10	8.7	87	70-130
115-07-1	Propylene	10	9.1	91	70-130
100-42-5	Styrene	10	8.3	83	70-130
71-55-6	1,1,1-Trichloroethane	10	8.7	87	70-130
79-34-5	1,1,2,2-Tetrachloroethane	10	8.3	83	70-130
79-00-5	1,1,2-Trichloroethane	10	8.6	86	70-130
120-82-1	1,2,4-Trichlorobenzene	10	8.0	80	70-130
95-63-6	1,2,4-Trimethylbenzene	10	8.5	85	70-130
108-67-8	1,3,5-Trimethylbenzene	10	8.2	82	70-130
540-84-1	2,2,4-Trimethylpentane	10	8.6	86	70-130
75-65-0	Tertiary Butyl Alcohol	10	9.6	96	70-130
127-18-4	Tetrachloroethylene	10	8.2	82	70-130
109-99-9	Tetrahydrofuran	10	9.0	90	70-130
108-88-3	Toluene	10	8.2	82	70-130
75-69-4	Trichlorofluoromethane	10	8.1	81	70-130
75-01-4	Vinyl chloride	10	8.8	88	70-130
108-05-4	Vinyl Acetate	10	8.7	87	70-130
	m,p-Xylene	20	16.4	82	70-130
95-47-6	o-Xylene	10	8.2	82	70-130
1330-20-7	Xylenes (total)	30	24.6	82	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	114%	50-129%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1382-BS	J26779A.D	1	02/14/14	JB	n/a	n/a	MSJ1382

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-2

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
64-17-5	Ethanol	10	11.4	114	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	76%	50-129%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-BS	J26611A.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
67-64-1	Acetone	10	9.7	97	70-130
106-99-0	1,3-Butadiene	10	10.7	107	70-130
71-43-2	Benzene	10	9.7	97	70-130
75-27-4	Bromodichloromethane	10	9.8	98	70-130
75-25-2	Bromoform	10	10.5	105	70-130
74-83-9	Bromomethane	10	10.2	102	70-130
593-60-2	Bromoethene	10	10.3	103	70-130
100-44-7	Benzyl Chloride	10	11.4	114	70-130
75-15-0	Carbon disulfide	10	10.3	103	70-130
108-90-7	Chlorobenzene	10	8.9	89	70-130
75-00-3	Chloroethane	10	10.2	102	70-130
67-66-3	Chloroform	10	10.3	103	70-130
74-87-3	Chloromethane	10	10	100	70-130
107-05-1	3-Chloropropene	10	11.2	112	70-130
95-49-8	2-Chlorotoluene	10	11.8	118	70-130
56-23-5	Carbon tetrachloride	10	9.9	99	70-130
110-82-7	Cyclohexane	10	9.3	93	70-130
75-34-3	1,1-Dichloroethane	10	10.7	107	70-130
75-35-4	1,1-Dichloroethylene	10	10.2	102	70-130
106-93-4	1,2-Dibromoethane	10	9.6	96	70-130
107-06-2	1,2-Dichloroethane	10	10.5	105	70-130
78-87-5	1,2-Dichloropropane	10	8.2	82	70-130
123-91-1	1,4-Dioxane	10	9.4	94	70-130
75-71-8	Dichlorodifluoromethane	10	10.1	101	70-130
124-48-1	Dibromochloromethane	10	10.2	102	70-130
156-60-5	trans-1,2-Dichloroethylene	10	10.6	106	70-130
156-59-2	cis-1,2-Dichloroethylene	10	10.2	102	70-130
10061-01-5	cis-1,3-Dichloropropene	10	9.0	90	70-130
541-73-1	m-Dichlorobenzene	10	12.7	127	70-130
95-50-1	o-Dichlorobenzene	10	12.8	128	70-130
106-46-7	p-Dichlorobenzene	10	12.6	126	70-130
10061-02-6	trans-1,3-Dichloropropene	10	9.1	91	70-130
64-17-5	Ethanol	10	10.5	105	70-130
100-41-4	Ethylbenzene	10	8.8	88	70-130
141-78-6	Ethyl Acetate	10	9.6	96	70-130
622-96-8	4-Ethyltoluene	10	12.0	120	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-BS	J26611A.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
76-13-1	Freon 113	10	10.3	103	70-130
76-14-2	Freon 114	10	10.1	101	70-130
142-82-5	Heptane	10	7.8	78	70-130
87-68-3	Hexachlorobutadiene	10	11.9	119	70-130
110-54-3	Hexane	10	9.4	94	70-130
591-78-6	2-Hexanone	10	9.3	93	70-130
67-63-0	Isopropyl Alcohol	10	9.0	90	70-130
75-09-2	Methylene chloride	10	9.6	96	70-130
78-93-3	Methyl ethyl ketone	10	9.6	96	70-130
108-10-1	Methyl Isobutyl Ketone	10	7.9	79	70-130
1634-04-4	Methyl Tert Butyl Ether	10	9.6	96	70-130
115-07-1	Propylene	10	9.7	97	70-130
100-42-5	Styrene	10	8.9	89	70-130
71-55-6	1,1,1-Trichloroethane	10	10.5	105	70-130
79-34-5	1,1,2,2-Tetrachloroethane	10	11.9	119	70-130
79-00-5	1,1,2-Trichloroethane	10	8.0	80	70-130
120-82-1	1,2,4-Trichlorobenzene	10	11.5	115	70-130
95-63-6	1,2,4-Trimethylbenzene	10	11.9	119	70-130
108-67-8	1,3,5-Trimethylbenzene	10	11.8	118	70-130
540-84-1	2,2,4-Trimethylpentane	10	8.7	87	70-130
75-65-0	Tertiary Butyl Alcohol	10	10	100	70-130
127-18-4	Tetrachloroethylene	10	10.3	103	70-130
109-99-9	Tetrahydrofuran	10	9.6	96	70-130
108-88-3	Toluene	10	8.3	83	70-130
75-69-4	Trichlorofluoromethane	10	10.6	106	70-130
75-01-4	Vinyl chloride	10	10.2	102	70-130
108-05-4	Vinyl Acetate	10	9.2	92	70-130
	m,p-Xylene	20	17.6	88	70-130
95-47-6	o-Xylene	10	8.7	87	70-130
1330-20-7	Xylenes (total)	30	26.3	88	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	86%	50-129%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-BS	J26715A.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
67-64-1	Acetone	10	12.2	122	70-130
106-99-0	1,3-Butadiene	10	12.6	126	70-130
71-43-2	Benzene	10	11.9	119	70-130
75-27-4	Bromodichloromethane	10	12.1	121	70-130
75-25-2	Bromoform	10	10.9	109	70-130
74-83-9	Bromomethane	10	11.7	117	70-130
593-60-2	Bromoethene	10	11.7	117	70-130
100-44-7	Benzyl Chloride	10	11.1	111	70-130
75-15-0	Carbon disulfide	10	11.7	117	70-130
108-90-7	Chlorobenzene	10	9.9	99	70-130
75-00-3	Chloroethane	10	12.0	120	70-130
67-66-3	Chloroform	10	12.1	121	70-130
74-87-3	Chloromethane	10	11.4	114	70-130
107-05-1	3-Chloropropene	10	13.2	132* [a]	70-130
95-49-8	2-Chlorotoluene	10	12.5	125	70-130
56-23-5	Carbon tetrachloride	10	11.4	114	70-130
110-82-7	Cyclohexane	10	11.3	113	70-130
75-34-3	1,1-Dichloroethane	10	12.7	127	70-130
75-35-4	1,1-Dichloroethylene	10	11.5	115	70-130
106-93-4	1,2-Dibromoethane	10	10.7	107	70-130
107-06-2	1,2-Dichloroethane	10	11.9	119	70-130
78-87-5	1,2-Dichloropropane	10	10.2	102	70-130
123-91-1	1,4-Dioxane	10	8.8	88	70-130
75-71-8	Dichlorodifluoromethane	10	11.5	115	70-130
124-48-1	Dibromochloromethane	10	11.0	110	70-130
156-60-5	trans-1,2-Dichloroethylene	10	12.1	121	70-130
156-59-2	cis-1,2-Dichloroethylene	10	11.9	119	70-130
10061-01-5	cis-1,3-Dichloropropene	10	11.2	112	70-130
541-73-1	m-Dichlorobenzene	10	12.7	127	70-130
95-50-1	o-Dichlorobenzene	10	12.2	122	70-130
106-46-7	p-Dichlorobenzene	10	12.7	127	70-130
10061-02-6	trans-1,3-Dichloropropene	10	11.7	117	70-130
100-41-4	Ethylbenzene	10	11.2	112	70-130
141-78-6	Ethyl Acetate	10	12.3	123	70-130
622-96-8	4-Ethyltoluene	10	12.8	128	70-130
76-13-1	Freon 113	10	11.5	115	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-BS	J26715A.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
76-14-2	Freon 114	10	11.3	113	70-130
142-82-5	Heptane	10	9.9	99	70-130
87-68-3	Hexachlorobutadiene	10	12.3	123	70-130
110-54-3	Hexane	10	11.0	110	70-130
591-78-6	2-Hexanone	10	8.3	83	70-130
67-63-0	Isopropyl Alcohol	10	10.1	101	70-130
75-09-2	Methylene chloride	10	11.0	110	70-130
78-93-3	Methyl ethyl ketone	10	11.6	116	70-130
108-10-1	Methyl Isobutyl Ketone	10	9.1	91	70-130
1634-04-4	Methyl Tert Butyl Ether	10	12.2	122	70-130
115-07-1	Propylene	10	11.6	116	70-130
100-42-5	Styrene	10	9.8	98	70-130
71-55-6	1,1,1-Trichloroethane	10	12.2	122	70-130
79-34-5	1,1,2,2-Tetrachloroethane	10	11.9	119	70-130
79-00-5	1,1,2-Trichloroethane	10	10	100	70-130
120-82-1	1,2,4-Trichlorobenzene	10	11.1	111	70-130
95-63-6	1,2,4-Trimethylbenzene	10	12.1	121	70-130
108-67-8	1,3,5-Trimethylbenzene	10	15.5	155* [a]	70-130
540-84-1	2,2,4-Trimethylpentane	10	10.8	108	70-130
75-65-0	Tertiary Butyl Alcohol	10	11.0	110	70-130
127-18-4	Tetrachloroethylene	10	11.3	113	70-130
109-99-9	Tetrahydrofuran	10	11.6	116	70-130
108-88-3	Toluene	10	11.1	111	70-130
75-69-4	Trichlorofluoromethane	10	11.9	119	70-130
75-01-4	Vinyl chloride	10	11.4	114	70-130
108-05-4	Vinyl Acetate	10	11.5	115	70-130
	m,p-Xylene	20	21.3	107	70-130
95-47-6	o-Xylene	10	11.3	113	70-130
1330-20-7	Xylenes (total)	30	32.5	108	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	112%	50-129%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSQ1121-BS	Q25749B.D	1	02/13/14	AA	n/a	n/a	MSQ1121

The QC reported here applies to the following samples: **Method:** TO-15 BY SIM

MC27979-1A, MC27979-2A, MC27979-3A, MC27979-4A, MC27979-5A

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
79-01-6	Trichloroethylene	0.5	0.42	84	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	57-139%

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-4DUP	J26778.D	1	02/13/14	JB	n/a	n/a	MSJ1381
MC27979-4	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	MC27979-4 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	7.5		7.5		0	25
106-99-0	1,3-Butadiene	ND		ND		nc	25
71-43-2	Benzene	0.47	J	0.50		6	25
75-27-4	Bromodichloromethane	ND		ND		nc	25
75-25-2	Bromoform	ND		ND		nc	25
74-83-9	Bromomethane	ND		ND		nc	25
593-60-2	Bromoethene	ND		ND		nc	20
100-44-7	Benzyl Chloride	ND		ND		nc	25
75-15-0	Carbon disulfide	ND		ND		nc	25
108-90-7	Chlorobenzene	ND		ND		nc	25
75-00-3	Chloroethane	ND		ND		nc	25
67-66-3	Chloroform	ND		ND		nc	25
74-87-3	Chloromethane	0.58		0.71		20	25
107-05-1	3-Chloropropene	ND		ND		nc	25
95-49-8	2-Chlorotoluene	ND		ND		nc	25
56-23-5	Carbon tetrachloride	ND		ND		nc	25
110-82-7	Cyclohexane	ND		ND		nc	25
75-34-3	1,1-Dichloroethane	ND		ND		nc	25
75-35-4	1,1-Dichloroethylene	ND		ND		nc	25
106-93-4	1,2-Dibromoethane	ND		ND		nc	25
107-06-2	1,2-Dichloroethane	ND		ND		nc	25
78-87-5	1,2-Dichloropropane	ND		ND		nc	25
123-91-1	1,4-Dioxane	ND		ND		nc	25
75-71-8	Dichlorodifluoromethane	0.47	J	0.55		16	25
124-48-1	Dibromochloromethane	ND		ND		nc	25
156-60-5	trans-1,2-Dichloroethylene	ND		ND		nc	25
156-59-2	cis-1,2-Dichloroethylene	ND		ND		nc	25
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	25
541-73-1	m-Dichlorobenzene	ND		ND		nc	25
95-50-1	o-Dichlorobenzene	ND		ND		nc	25
106-46-7	p-Dichlorobenzene	ND		ND		nc	25
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	25
64-17-5	Ethanol	ND		8.0		200* [a]	25
100-41-4	Ethylbenzene	ND		ND		nc	25
141-78-6	Ethyl Acetate	ND		ND		nc	25
622-96-8	4-Ethyltoluene	ND		ND		nc	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-4DUP	J26778.D	1	02/13/14	JB	n/a	n/a	MSJ1381
MC27979-4	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	MC27979-4 ppbv	Q	DUP ppbv	Q	RPD	Limits
76-13-1	Freon 113	ND		ND		nc	25
76-14-2	Freon 114	ND		ND		nc	25
142-82-5	Heptane	0.47	J	0.53		12	25
87-68-3	Hexachlorobutadiene	ND		ND		nc	25
110-54-3	Hexane	ND		ND		nc	25
591-78-6	2-Hexanone	ND		ND		nc	25
67-63-0	Isopropyl Alcohol	ND		2.6		200* [a]	25
75-09-2	Methylene chloride	0.21	J	0.23	J	9	25
78-93-3	Methyl ethyl ketone	0.80		0.84		5	25
108-10-1	Methyl Isobutyl Ketone	ND		ND		nc	25
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	25
115-07-1	Propylene	ND		ND		nc	25
100-42-5	Styrene	ND		ND		nc	25
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	25
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	25
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	25
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	25
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	25
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	25
540-84-1	2,2,4-Trimethylpentane	ND		ND		nc	25
75-65-0	Tertiary Butyl Alcohol	ND		ND		nc	25
127-18-4	Tetrachloroethylene	ND		ND		nc	25
109-99-9	Tetrahydrofuran	ND		ND		nc	25
108-88-3	Toluene	5.2		5.1		2	25
75-69-4	Trichlorofluoromethane	0.39	J	0.44	J	12	25
75-01-4	Vinyl chloride	ND		ND		nc	25
108-05-4	Vinyl Acetate	1.3		1.3		0	25
	m,p-Xylene	ND		ND		nc	25
95-47-6	o-Xylene	ND		ND		nc	25
1330-20-7	Xylenes (total)	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	MC27979-4	Limits
460-00-4	4-Bromofluorobenzene	78%	82%	50-129%

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-4DUP	J26778.D	1	02/13/14	JB	n/a	n/a	MSJ1381
MC27979-4	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC28079-1DUP	J26783.D	1	02/14/14	JB	n/a	n/a	MSJ1382
MC28079-1	J26782.D	1	02/14/14	JB	n/a	n/a	MSJ1382

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-2

CAS No.	Compound	MC28079-1 ppbv	Q	DUP ppbv	Q	RPD	Limits
64-17-5	Ethanol	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	MC28079-1	Limits
460-00-4	4-Bromofluorobenzene	124%	78%	50-129%

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-1ADUP	Q25754.D	1	02/13/14	AA	n/a	n/a	MSQ1121
MC27979-1A	Q25753.D	1	02/13/14	AA	n/a	n/a	MSQ1121

The QC reported here applies to the following samples: **Method:** TO-15 BY SIM

MC27979-1A, MC27979-2A, MC27979-3A, MC27979-4A, MC27979-5A

CAS No.	Compound	MC27979-1ADUP ppbv	Q	ppbv	Q	RPD	Limits
79-01-6	Trichloroethylene	0.85		0.85		0	25

CAS No.	Surrogate Recoveries	DUP	MC27979-1A	Limits
460-00-4	4-Bromofluorobenzene	104%	103%	57-139%

* = Outside of Control Limits.

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-SCC	J26640.D	1	01/21/14	AA	n/a	n/a	MSJ1375

The QC reported here (Summa M227) applies to the following samples: **Method:** TO-15

Batch CP1424 cleaned 01/17/14: MC27979-1(M133), MC27979-2(M003), MC27979-3(M022), MC27979-4(M165), MC27979-5(M114)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-SCC	J26640.D	1	01/21/14	AA	n/a	n/a	MSJ1375

The QC reported here (Summa M227) applies to the following samples: **Method:** TO-15

Batch CP1424 cleaned 01/17/14: MC27979-1(M133), MC27979-2(M003), MC27979-3(M022), MC27979-4(M165), MC27979-5(M114)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	112%	50-129%

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-SCC	J26719.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here (Summa M232) applies to the following samples: **Method:** TO-15

Batch CP1426 cleaned 01/20/14: MC27979-2(M241)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-SCC	J26719.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here (Summa M232) applies to the following samples: **Method:** TO-15

Batch CP1426 cleaned 01/20/14: MC27979-2(M241)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	71%	50-129%

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1373-BFB	**Injection Date:**	01/16/14
Lab File ID:	J26574.D	**Injection Time:**	19:32
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	9132	16.5		Pass
75	30.0 - 66.0% of mass 95	24859	44.9		Pass
95	Base peak, 100% relative abundance	55304	100.0		Pass
96	5.0 - 9.0% of mass 95	3894	7.04		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	45771	82.8		Pass
175	4.0 - 9.0% of mass 174	3272	5.92	(7.15) [a]	Pass
176	93.0 - 101.0% of mass 174	44208	79.9	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	2998	5.42	(6.78) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1373-IC1373	J26578.D	01/16/14	22:27	02:55	Initial cal 40
MSJ1373-IC1373	J26579.D	01/16/14	23:12	03:40	Initial cal 20
MSJ1373-ICC1373	J26580.D	01/16/14	23:54	04:22	Initial cal 10
MSJ1373-IC1373	J26581.D	01/17/14	00:37	05:05	Initial cal 5
MSJ1373-IC1373	J26582.D	01/17/14	01:21	05:49	Initial cal 2
MSJ1373-IC1373	J26583.D	01/17/14	07:55	12:23	Initial cal 0.5
MSJ1373-IC1373	J26584.D	01/17/14	08:37	13:05	Initial cal 0.2

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1375-BFB
Lab File ID: J26611.D
Instrument ID: GCMSJ
Injection Date: 01/20/14
Injection Time: 13:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	8118	16.7		Pass
75	30.0 - 66.0% of mass 95	21712	44.6		Pass
95	Base peak, 100% relative abundance	48680	100.0		Pass
96	5.0 - 9.0% of mass 95	3316	6.81		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	49112	100.9		Pass
175	4.0 - 9.0% of mass 174	3704	7.61	(7.54) [a]	Pass
176	93.0 - 101.0% of mass 174	48072	98.8	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	3165	6.50	(6.58) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1375-BS	J26611A.D	01/20/14	13:54	00:00	Blank Spike
MSJ1375-CC1373	J26611.D	01/20/14	13:54	00:00	Continuing cal 10
MSJ1375-SCC	J26612A.D	01/20/14	15:30	01:36	Summa Cleaning Certification
MSJ1375-MB	J26612.D	01/20/14	15:30	01:36	Method Blank
ZZZZZZ	J26613.D	01/20/14	16:31	02:37	(unrelated sample)
ZZZZZZ	J26614.D	01/20/14	17:26	03:32	(unrelated sample)
ZZZZZZ	J26615.D	01/20/14	18:46	04:52	(unrelated sample)
ZZZZZZ	J26616.D	01/20/14	19:28	05:34	(unrelated sample)
ZZZZZZ	J26618.D	01/20/14	20:56	07:02	(unrelated sample)
MC27621-1	J26620.D	01/20/14	22:22	08:28	(used for QC only; not part of job MC27979)
ZZZZZZ	J26622.D	01/20/14	23:50	09:56	(unrelated sample)
ZZZZZZ	J26623.D	01/21/14	00:33	10:39	(unrelated sample)
ZZZZZZ	J26624.D	01/21/14	01:19	11:25	(unrelated sample)
ZZZZZZ	J26625.D	01/21/14	02:02	12:08	(unrelated sample)
ZZZZZZ	J26626.D	01/21/14	02:44	12:50	(unrelated sample)
ZZZZZZ	J26627.D	01/21/14	03:27	13:33	(unrelated sample)
ZZZZZZ	J26628.D	01/21/14	04:09	14:15	(unrelated sample)
ZZZZZZ	J26629.D	01/21/14	04:51	14:57	(unrelated sample)
ZZZZZZ	J26632.D	01/21/14	07:06	17:12	(unrelated sample)
ZZZZZZ	J26633.D	01/21/14	07:50	17:56	(unrelated sample)
MC27621-1DUP	J26634.D	01/21/14	08:34	18:40	Duplicate
ZZZZZZ	J26635.D	01/21/14	09:19	19:25	(unrelated sample)
ZZZZZZ	J26636.D	01/21/14	10:03	20:09	(unrelated sample)
ZZZZZZ	J26637.D	01/21/14	10:49	20:55	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1375-BFB	**Injection Date:**	01/20/14
Lab File ID:	J26611.D	**Injection Time:**	13:54
Instrument ID:	GCMSJ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	J26638.D	01/21/14	11:46	21:52	(unrelated sample)
ZZZZZZ	J26639.D	01/21/14	12:31	22:37	(unrelated sample)
MSJ1375-SCC	J26640.D	01/21/14	13:15	23:21	Summa Cleaning Certification

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1379-BFB	**Injection Date:**	02/03/14
Lab File ID:	J26715.D	**Injection Time:**	15:52
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	10167	16.7		Pass
75	30.0 - 66.0% of mass 95	27840	45.6		Pass
95	Base peak, 100% relative abundance	61024	100.0		Pass
96	5.0 - 9.0% of mass 95	3970	6.51		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	59912	98.2		Pass
175	4.0 - 9.0% of mass 174	4282	7.02	(7.15) [a]	Pass
176	93.0 - 101.0% of mass 174	58024	95.1	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	3796	6.22	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1379-BS	J26715A.D	02/03/14	15:52	00:00	Blank Spike
MSJ1379-CC1373	J26715.D	02/03/14	15:52	00:00	Continuing cal 10
MSJ1379-SCC	J26718A.D	02/03/14	19:12	03:20	Summa Cleaning Certification
MSJ1379-MB	J26718.D	02/03/14	19:12	03:20	Method Blank
MSJ1379-SCC	J26719.D	02/03/14	19:58	04:06	Summa Cleaning Certification
ZZZZZZ	J26720.D	02/03/14	20:40	04:48	(unrelated sample)
ZZZZZZ	J26721.D	02/03/14	21:24	05:32	(unrelated sample)
ZZZZZZ	J26722.D	02/03/14	22:06	06:14	(unrelated sample)
ZZZZZZ	J26723.D	02/03/14	22:48	06:56	(unrelated sample)
ZZZZZZ	J26724.D	02/03/14	23:31	07:39	(unrelated sample)
MSJ1379-SCC	J26725.D	02/04/14	00:15	08:23	Summa Cleaning Certification
MSJ1379-SCC	J26726.D	02/04/14	00:59	09:07	Summa Cleaning Certification
ZZZZZZ	J26729.D	02/04/14	08:17	16:25	(unrelated sample)
ZZZZZZ	J26731.D	02/04/14	10:26	18:34	(unrelated sample)
ZZZZZZ	J26732.D	02/04/14	11:09	19:17	(unrelated sample)
MC28074-1	J26733.D	02/04/14	11:53	20:01	(used for QC only; not part of job MC27979)
ZZZZZZ	J26734.D	02/04/14	12:36	20:44	(unrelated sample)
ZZZZZZ	J26735.D	02/04/14	13:18	21:26	(unrelated sample)
MC28074-1DUP	J26736.D	02/04/14	14:09	22:17	Duplicate
ZZZZZZ	J26737.D	02/04/14	14:51	22:59	(unrelated sample)
ZZZZZZ	J26738.D	02/04/14	15:33	23:41	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1381-BFB	**Injection Date:**	02/11/14
Lab File ID:	J26756.D	**Injection Time:**	14:15
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	21120	15.2		Pass
75	30.0 - 66.0% of mass 95	58747	42.3		Pass
95	Base peak, 100% relative abundance	139008	100.0		Pass
96	5.0 - 9.0% of mass 95	9801	7.05		Pass
173	Less than 2.0% of mass 174	416	0.30	(0.37) [a]	Pass
174	50.0 - 120.0% of mass 95	112565	81.0		Pass
175	4.0 - 9.0% of mass 174	7898	5.68	(7.02) [a]	Pass
176	93.0 - 101.0% of mass 174	110165	79.3	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	7300	5.25	(6.63) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1381-IC1381	J26757.D	02/11/14	15:45	01:30	Initial cal 0.5
MSJ1381-IC1381	J26758.D	02/11/14	16:27	02:12	Initial cal 0.2
MSJ1381-IC1381	J26759.D	02/11/14	17:12	02:57	Initial cal 40
MSJ1381-IC1381	J26760.D	02/11/14	17:55	03:40	Initial cal 20
MSJ1381-ICC1381	J26761.D	02/11/14	18:38	04:23	Initial cal 10
MSJ1381-IC1381	J26762.D	02/11/14	19:21	05:06	Initial cal 5
MSJ1381-IC1381	J26763.D	02/11/14	20:04	05:49	Initial cal 2

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1381-BFB1	**Injection Date:**	02/12/14
Lab File ID:	J26766.D	**Injection Time:**	13:34
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	35008	14.7		Pass
75	30.0 - 66.0% of mass 95	102752	43.2		Pass
95	Base peak, 100% relative abundance	238016	100.0		Pass
96	5.0 - 9.0% of mass 95	14563	6.12		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	200064	84.1		Pass
175	4.0 - 9.0% of mass 174	14381	6.04	(7.19) [a]	Pass
176	93.0 - 101.0% of mass 174	194240	81.6	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	12505	5.25	(6.44) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1381-CC1381	J26766.D	02/12/14	13:34	00:00	Continuing cal 10
MSJ1381-BS	J26766B.D	02/12/14	13:34	00:00	Blank Spike
MSJ1381-ICV1381	J26766A.D	02/12/14	13:34	00:00	Initial cal verification 10
MSJ1381-MB	J26767.D	02/12/14	14:39	01:05	Method Blank
MC27979-5	J26769.D	02/13/14	05:14	15:40	TRIP BLANK
MC27979-5	J26770.D	02/13/14	06:41	17:07	TRIP BLANK
MC27979-1	J26771.D	02/13/14	07:26	17:52	SG-2
MC27979-3	J26772.D	02/13/14	08:16	18:42	SG-3
MC27979-3	J26773.D	02/13/14	09:12	19:38	SG-3
MC27979-4	J26775.D	02/13/14	10:35	21:01	IA-3
MC27979-1	J26776.D	02/13/14	11:46	22:12	SG-2
MC27979-2	J26777.D	02/13/14	12:29	22:55	IA-2
MC27979-4DUP	J26778.D	02/13/14	13:11	23:37	Duplicate

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1382-BFB	**Injection Date:**	02/14/14
Lab File ID:	J26779.D	**Injection Time:**	07:08
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	17600	17.6		Pass
75	30.0 - 66.0% of mass 95	47288	47.3		Pass
95	Base peak, 100% relative abundance	99896	100.0		Pass
96	5.0 - 9.0% of mass 95	6953	6.96		Pass
173	Less than 2.0% of mass 174	531	0.53	(0.69) [a]	Pass
174	50.0 - 120.0% of mass 95	76600	76.7		Pass
175	4.0 - 9.0% of mass 174	5282	5.29	(6.90) [a]	Pass
176	93.0 - 101.0% of mass 174	74928	75.0	(97.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4810	4.82	(6.42) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1382-CC1381	J26779.D	02/14/14	07:08	00:00	Continuing cal 10
MSJ1382-BS	J26779A.D	02/14/14	07:08	00:00	Blank Spike
MSJ1382-MB	J26780.D	02/14/14	08:24	01:16	Method Blank
MC27979-2	J26781.D	02/14/14	09:14	02:06	IA-2
MC28079-1	J26782.D	02/14/14	10:24	03:16	(used for QC only; not part of job MC27979)
MC28079-1DUP	J26783.D	02/14/14	11:08	04:00	Duplicate
ZZZZZZ	J26784.D	02/14/14	11:52	04:44	(unrelated sample)
ZZZZZZ	J26785.D	02/14/14	12:46	05:38	(unrelated sample)
ZZZZZZ	J26786.D	02/14/14	13:30	06:22	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSQ1121-BFB	**Injection Date:**	02/13/14
Lab File ID:	Q25740.D	**Injection Time:**	10:54
Instrument ID:	GCMSQ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	68432	19.2		Pass
75	30.0 - 66.0% of mass 95	171115	48.0		Pass
95	Base peak, 100% relative abundance	356288	100.0		Pass
96	5.0 - 9.0% of mass 95	24069	6.76		Pass
173	Less than 2.0% of mass 174	3096	0.87	(1.18) [a]	Pass
174	50.0 - 120.0% of mass 95	262997	73.8		Pass
175	4.0 - 9.0% of mass 174	19805	5.56	(7.53) [a]	Pass
176	93.0 - 101.0% of mass 174	253973	71.3	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	16353	4.59	(6.44) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSQ1121-IC1121	Q25743.D	02/13/14	13:59	03:05	Initial cal 0.05
MSQ1121-IC1121	Q25744.D	02/13/14	14:42	03:48	Initial cal 0.1
MSQ1121-IC1121	Q25745.D	02/13/14	15:24	04:30	Initial cal 0.25
MSQ1121-ICC1121	Q25746.D	02/13/14	16:07	05:13	Initial cal 0.5
MSQ1121-IC1121	Q25747.D	02/13/14	16:50	05:56	Initial cal 2
MSQ1121-IC1121	Q25748.D	02/13/14	17:34	06:40	Initial cal 5
MSQ1121-CC1121	Q25749.D	02/13/14	18:17	07:23	Continuing cal 0.5
MSQ1121-ICV1121	Q25749A.D	02/13/14	18:17	07:23	Initial cal verification 0.5
MSQ1121-BS	Q25749B.D	02/13/14	18:17	07:23	Blank Spike
MSQ1121-MB	Q25750.D	02/13/14	19:00	08:06	Method Blank
MC27979-1A	Q25753.D	02/13/14	21:09	10:15	SG-2
MC27979-1ADUP	Q25754.D	02/13/14	21:53	10:59	Duplicate
MC27979-2A	Q25755.D	02/13/14	22:37	11:43	IA-2
MC27979-3A	Q25756.D	02/13/14	23:21	12:27	SG-3
MC27979-5A	Q25757.D	02/14/14	00:05	13:11	TRIP BLANK
MC27979-4A	Q25758.D	02/14/14	07:13	20:19	IA-3

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1375-CC1373	**Injection Date:**	01/20/14
Lab File ID:	J26611.D	**Injection Time:**	13:54
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	342103	8.75	1744257	11.06	643992	17.74
Upper Limit [a]	478944	9.08	2441960	11.39	901589	18.07
Lower Limit [b]	205262	8.42	1046554	10.73	386395	17.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1375-BS	342103	8.75	1744257	11.06	643992	17.74
MSJ1375-SCC	356584	8.74	1820268	11.05	570672	17.71
MSJ1375-MB	356584	8.74	1820268	11.05	570672	17.71
ZZZZZZ	379219	8.97	1948439	11.31	1007082[c]	17.80
ZZZZZZ	355533	8.74	1674008	11.05	662888	17.70
ZZZZZZ	388916	8.74	1843741	11.04	709644	17.71
ZZZZZZ	355113	8.75	1768006	11.05	808327	17.71
ZZZZZZ	359573	8.74	2001382	11.05	803994	17.71
MC27621-1	333778	8.75	1885832	11.05	693756	17.70
ZZZZZZ	316464	8.77	1417311	11.07	649817	17.72
ZZZZZZ	336972	8.74	1576588	11.04	631562	17.70
ZZZZZZ	323062	8.75	1589679	11.06	898180	17.72
ZZZZZZ	326956	8.76	1627903	11.11	767915	17.81
ZZZZZZ	394061	8.77	2069273	11.15	1409279[d]	17.87
ZZZZZZ	408907	8.75	2182511	11.05	925633[d]	17.71
ZZZZZZ	384886	8.76	2050328	11.06	1337760[d]	17.77
ZZZZZZ	455568	8.76	2456980[d]	11.06	1222155[d]	17.77
ZZZZZZ	417933	8.75	2250176	11.06	888077	17.74
ZZZZZZ	444725	8.76	2435957	11.06	1131661[e]	17.71
MC27621-1DUP	435612	8.74	2296008	11.04	878552	17.71
ZZZZZZ	404361	8.79	1992394	11.07	951649[d]	17.72
ZZZZZZ	383176	8.75	1949164	11.05	899702	17.70
ZZZZZZ	389291	8.77	1882515	11.06	716501	17.70
ZZZZZZ	299887	8.76	1367579	11.06	680885	17.72
ZZZZZZ	375848	8.76	1881019	11.06	987474[d]	17.72
MSJ1375-SCC	351356	8.75	1742278	11.05	841016	17.71

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.
(c) Outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1375-CC1373	**Injection Date:**	01/20/14
Lab File ID:	J26611.D	**Injection Time:**	13:54
Instrument ID:	GCMSJ	**Method:**	TO-15

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT

(e) Outside control limits due to possible matrix interference.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1379-CC1373	**Injection Date:**	02/03/14
Lab File ID:	J26715.D	**Injection Time:**	15:52
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	287548	8.75	1383128	11.06	566007	17.72
Upper Limit [a]	402567	9.08	1936379	11.39	792410	18.05
Lower Limit [b]	172529	8.42	829877	10.73	339604	17.39

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1379-BS	287548	8.75	1383128	11.06	566007	17.72
MSJ1379-SCC	274374	8.75	1576877	11.05	640068	17.71
MSJ1379-MB	274374	8.75	1576877	11.05	640068	17.71
MSJ1379-SCC	264560	8.74	1376871	11.04	613719	17.70
ZZZZZZ	286858	8.75	1512460	11.05	723604	17.71
ZZZZZZ	257777	8.74	1457583	11.04	636719	17.70
ZZZZZZ	252309	8.75	1429527	11.05	764414	17.71
ZZZZZZ	252101	8.76	1295762	11.06	531186	17.71
ZZZZZZ	284839	8.75	1555396	11.05	776765	17.71
MSJ1379-SCC	260286	8.75	1393561	11.05	527479	17.70
MSJ1379-SCC	251226	8.75	1293393	11.05	687371	17.70
ZZZZZZ	241644	8.75	1223358	11.04	563345	17.70
ZZZZZZ	322807	8.76	1693418	11.06	879721[c]	17.72
ZZZZZZ	300207	8.74	1550424	11.04	619324	17.70
MC28074-1	292488	8.76	1643648	11.05	843850[c]	17.71
ZZZZZZ	324798	8.76	1849151	11.05	826720[c]	17.71
ZZZZZZ	300076	8.75	1687777	11.05	726128	17.71
MC28074-1DUP	300573	8.75	1565018	11.05	695226	17.70
ZZZZZZ	308763	8.74	1618214	11.04	746484	17.70
ZZZZZZ	291082	8.74	1607778	11.04	697588	17.70

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.
(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1381-ICC1381	**Injection Date:**	02/11/14
Lab File ID:	J26761.D	**Injection Time:**	18:38
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	875327	8.74	4825730	11.06	2051209	17.72
Upper Limit [a]	1225458	9.07	6756022	11.39	2871693	18.05
Lower Limit [b]	525196	8.41	2895438	10.73	1230725	17.39

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1381-BS	832033	8.75	4681311	11.06	2248398	17.73

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1381-CC1381	**Injection Date:**	02/12/14
Lab File ID:	J26766.D	**Injection Time:**	13:34
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	832033	8.75	4681311	11.06	2248398	17.73
Upper Limit [a]	1164846	9.08	6553835	11.39	3147757	18.06
Lower Limit [b]	499220	8.42	2808787	10.73	1349039	17.40

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1381-MB	843209	8.76	4871315	11.06	2145781	17.71
MC27979-5 [c]	651451	8.76	3538949	11.06	1013727[d]	17.71
MC27979-5	1314439[d]	8.76	6833567[d]	11.06	3189837[d]	17.71
MC27979-1	608142	8.77	3138119	11.07	1191249[d]	17.72
MC27979-3	670881	8.77	3369679	11.07	1509773	17.73
MC27979-3	820106	8.76	4363057	11.06	1653779	17.71
MC27979-4	749619	8.76	4054207	11.06	1776745	17.71
MC27979-1	699284	8.76	3722258	11.06	1681038	17.71
MC27979-2	667219	8.76	3451666	11.06	1392095	17.71
MC27979-4DUP	620188	8.76	3211393	11.06	1570457	17.71

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.
(c) Confirmation run for internal standard areas.
(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1382-CC1381	**Injection Date:**	02/14/14
Lab File ID:	J26779.D	**Injection Time:**	07:08
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	657255	8.76	3473291	11.07	1514155	17.74
Upper Limit [a]	920157	9.09	4862607	11.40	2119817	18.07
Lower Limit [b]	394353	8.43	2083975	10.74	908493	17.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1382-BS	657255	8.76	3473291	11.07	1514155	17.74
MSJ1382-MB	662162	8.74	3357075	11.04	1386165	17.71
MC27979-2	640472	8.75	3030247	11.04	1378854	17.71
MC28079-1	621599	8.76	3271179	11.06	1378591	17.71
MC28079-1DUP	640615	8.76	3403217	11.06	1784970	17.71
ZZZZZZ	595835	8.74	2983135	11.04	1267664	17.70
ZZZZZZ	670291	8.75	3453079	11.05	1730679	17.70
ZZZZZZ	647202	8.76	3377400	11.05	1502741	17.70

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSQ1121-CC1121	**Injection Date:**	02/13/14
Lab File ID:	Q25749.D	**Injection Time:**	18:17
Instrument ID:	GCMSQ	**Method:**	TO-15 BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	678759	8.87	3275755	11.16	1288933	17.81
Upper Limit [a]	950263	9.20	4586057	11.49	1804506	18.14
Lower Limit [b]	407255	8.54	1965453	10.83	773360	17.48

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSQ1121-BS	678759	8.87	3275755	11.16	1288933	17.81
MSQ1121-MB	611287	8.87	2892627	11.16	1060472	17.81
MC27979-1A	684638	8.87	3426430	11.16	1350821	17.81
MC27979-1ADUP	660232	8.87	3306816	11.16	1321689	17.81
MC27979-2A	629466	8.86	3150774	11.16	1220210	17.81
MC27979-3A	672292	8.87	3319716	11.16	1435800	17.82
MC27979-5A	672091	8.87	3354269	11.16	1293756	17.81
MC27979-4A	629770	8.86	3134044	11.15	1255125	17.81

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.76	0.645	ok	0.651	0.591-0.711
Acrolein	5.51	8.76	0.629	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.76	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.64	8.76	0.530	ok	0.531	0.471-0.591
Benzene	10.66	11.09	0.961	ok	0.962	0.902-1.022
Bromodichloromethane	12.00	11.09	1.082	ok	1.082	1.022-1.142
Bromoform	19.04	17.76	1.072	ok	1.071	1.011-1.131
Bromomethane	4.91	8.76	0.561	ok	0.562	0.502-0.622
Bromoethene	5.41	8.76	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.43	17.76	1.432	ok	1.434	1.374-1.494
sec-Butylbenzene	24.18	17.76	1.361	ok	1.363	1.303-1.423
Benzyl Chloride	23.87	17.76	1.344	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.76	0.782	ok	0.783	0.723-0.843
Chlorobenzene	17.84	17.76	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.76	0.580	ok	0.581	0.521-0.641
Chloroform	8.91	8.76	1.017	ok	1.016	0.956-1.076
Chloromethane	4.29	8.76	0.490	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.76	0.757	ok	0.758	0.698-0.818
2-Chlorotoluene	21.98	17.76	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.84	8.76	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.09	0.991	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.76	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.76	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.89	17.76	0.895	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.78	8.76	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.74	11.09	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.82	11.09	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.14	11.09	1.095	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.76	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.47	17.76	0.871	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.76	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.57	8.76	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.26	11.09	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.90	17.76	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.82	17.76	1.398	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.06	17.76	1.355	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.05	11.09	1.267	ok	1.268	1.208-1.328
Ethanol	5.23	8.76	0.597	ok	0.604	0.544-0.664
Ethylbenzene	18.53	17.76	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.84	8.76	1.009	ok	1.010	0.950-1.070
4-Ethyltoluene	22.40	17.76	1.261	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.76	0.772	ok	0.773	0.713-0.833
Freon 114	4.39	8.76	0.501	ok	0.502	0.442-0.562
Heptane	12.41	11.09	1.119	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.76	1.627	ok	1.630	1.570-1.690
Hexane	8.77	8.76	1.001	ok	1.002	0.942-1.062
2-Hexanone	15.25	17.76	0.859	ok	0.862	0.802-0.922
Isopropylbenzene	20.97	17.76	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.99	8.76	0.684	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.56	17.76	1.383	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.76	0.744	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.14	8.76	0.929	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.40	11.09	1.208	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.75	8.76	0.885	ok	0.888	0.828-0.948
Methylmethacrylate	12.32	11.09	1.111	ok	1.112	1.052-1.172
Naphthalene	28.26	17.76	1.591	ok	1.594	1.534-1.654
Nonane	20.21	17.76	1.138	ok	1.138	1.078-1.198
Pentane	6.13	8.76	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.76	0.462	ok	0.463	0.403-0.523
Styrene	19.57	17.76	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.08	8.76	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.82	17.76	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.79	17.76	1.114	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.35	11.09	1.294	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.76	1.581	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.55	17.76	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.59	17.76	1.272	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.07	11.09	1.088	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.58	8.76	0.751	ok	0.750	0.690-0.810
tert-Butylbenzene	23.53	17.76	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.63	17.76	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.43	8.76	1.076	ok	1.082	1.022-1.142
Toluene	14.76	11.09	1.331	ok	1.332	1.272-1.392
Trichloroethylene	12.04	11.09	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.76	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.51	8.76	0.515	ok	0.516	0.456-0.576
Vinyl Acetate	7.82	8.76	0.893	ok	0.893	0.833-0.953
m,p-Xylene	18.88	17.76	1.063	ok	1.063	1.003-1.123
o-Xylene	19.79	17.76	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.76	ok	8.75	8.42-9.08	310875	ok	339366	203620-475112
1,4-Difluorobenzene	11.09	ok	11.06	10.73-11.39	1809440	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.76	ok	17.73	17.40-18.06	795908	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

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Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	Reporting this level
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.76	0.645	ok	0.651	0.591-0.711
Acrolein	5.52	8.76	0.630	ok	0.633	0.573-0.693
Acrylonitrile	6.08	8.76	0.694	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.76	0.531	ok	0.531	0.471-0.591
Benzene	10.65	11.07	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.98	11.07	1.082	ok	1.082	1.022-1.142
Bromoform	19.02	17.75	1.072	ok	1.071	1.011-1.131
Bromomethane	4.92	8.76	0.562	ok	0.562	0.502-0.622
Bromoethene	5.41	8.76	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.42	17.75	1.432	ok	1.434	1.374-1.494
sec-Butylbenzene	24.17	17.75	1.362	ok	1.363	1.303-1.423
Benzyl Chloride	23.86	17.75	1.344	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.76	0.782	ok	0.783	0.723-0.843
Chlorobenzene	17.83	17.75	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.76	0.580	ok	0.581	0.521-0.641
Chloroform	8.90	8.76	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.76	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.76	0.757	ok	0.758	0.698-0.818
2-Chlorotoluene	21.97	17.75	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.83	8.76	1.236	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.07	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.76	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.76	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.87	17.75	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.77	8.76	1.115	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.72	11.07	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.80	11.07	1.337	ok	1.336	1.276-1.396
1,4-Dioxane	12.13	11.07	1.096	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.76	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.45	17.75	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.76	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.76	0.977	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.25	11.07	1.197	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.89	17.75	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.81	17.75	1.398	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.05	17.75	1.355	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.04	11.07	1.268	ok	1.268	1.208-1.328
Ethanol	5.23	8.76	0.597	ok	0.604	0.544-0.664
Ethylbenzene	18.52	17.75	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.82	8.76	1.007	ok	1.010	0.950-1.070
4-Ethyltoluene	22.40	17.75	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	Reporting this level
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.76	0.772	ok	0.773	0.713-0.833
Freon 114	4.39	8.76	0.501	ok	0.502	0.442-0.562
Heptane	12.40	11.07	1.120	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.75	1.628	ok	1.630	1.570-1.690
Hexane	8.77	8.76	1.001	ok	1.002	0.942-1.062
2-Hexanone	15.25	17.75	0.859	ok	0.862	0.802-0.922
Isopropylbenzene	20.96	17.75	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.97	8.76	0.682	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.54	17.75	1.383	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.76	0.743	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.76	0.927	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.38	11.07	1.209	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.74	8.76	0.884	ok	0.888	0.828-0.948
Methylmethacrylate	12.31	11.07	1.112	ok	1.112	1.052-1.172
Naphthalene	28.25	17.75	1.592	ok	1.594	1.534-1.654
Nonane	20.20	17.75	1.138	ok	1.138	1.078-1.198
Pentane	6.13	8.76	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.76	0.462	ok	0.463	0.403-0.523
Styrene	19.55	17.75	1.101	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.07	8.76	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.80	17.75	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.77	17.75	1.114	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.33	11.07	1.294	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.06	17.75	1.581	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.54	17.75	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.58	17.75	1.272	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.05	11.07	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.57	8.76	0.750	ok	0.750	0.690-0.810
tert-Butylbenzene	23.51	17.75	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.61	17.75	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.42	8.76	1.075	ok	1.082	1.022-1.142
Toluene	14.75	11.07	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.03	11.07	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.76	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.76	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	7.81	8.76	0.892	ok	0.893	0.833-0.953
m,p-Xylene	18.87	17.75	1.063	ok	1.063	1.003-1.123
o-Xylene	19.77	17.75	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	Reporting this level
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.76	ok	8.75	8.42-9.08	360830	ok	339366	203620-475112
1,4-Difluorobenzene	11.07	ok	11.06	10.73-11.39	1803194	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.75	ok	17.73	17.40-18.06	896822	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.74	0.646	ok	0.651	0.591-0.711
Acrolein	5.52	8.74	0.632	ok	0.633	0.573-0.693
Acrylonitrile	6.07	8.74	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.64	8.74	0.531	ok	0.531	0.471-0.591
Benzene	10.64	11.05	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.05	1.082	ok	1.082	1.022-1.142
Bromoform	18.97	17.72	1.071	ok	1.071	1.011-1.131
Bromomethane	4.91	8.74	0.562	ok	0.562	0.502-0.622
Bromoethene	5.40	8.74	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.40	17.72	1.433	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.72	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.82	17.72	1.344	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.783	0.723-0.843
Chlorobenzene	17.80	17.72	1.005	ok	1.005	0.945-1.065
Chloroethane	5.07	8.74	0.580	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.29	8.74	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.74	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.94	17.72	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.05	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.65	8.74	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.40	8.74	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.72	0.893	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.69	11.05	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.10	11.05	1.095	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.12	8.74	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.72	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.55	8.74	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.85	17.72	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.79	17.72	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.02	17.72	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.22	8.74	0.597	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.72	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.79	8.74	1.006	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.72	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.38	8.74	0.501	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.72	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.002	0.942-1.062
2-Hexanone	15.20	17.72	0.858	ok	0.862	0.802-0.922
Isopropylbenzene	20.92	17.72	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.89	8.74	0.674	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.72	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.10	8.74	0.927	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.32	11.05	1.205	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.73	8.74	0.884	ok	0.888	0.828-0.948
Methylmethacrylate	12.28	11.05	1.111	ok	1.112	1.052-1.172
Naphthalene	28.25	17.72	1.594	ok	1.594	1.534-1.654
Nonane	20.17	17.72	1.138	ok	1.138	1.078-1.198
Pentane	6.12	8.74	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.74	0.463	ok	0.463	0.403-0.523
Styrene	19.52	17.72	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.72	1.002	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.72	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.72	1.583	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.72	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.55	17.72	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.47	8.74	0.740	ok	0.750	0.690-0.810
tert-Butylbenzene	23.48	17.72	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.72	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.41	8.74	1.077	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.05	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.79	8.74	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.51	8.74	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	7.79	8.74	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.72	1.063	ok	1.063	1.003-1.123
o-Xylene	19.73	17.72	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	367882	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	2075568	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.72	ok	17.73	17.40-18.06	934256	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

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MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.67	8.75	0.648	ok	0.651	0.591-0.711
Acrolein	5.53	8.75	0.632	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.75	0.696	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.75	0.531	ok	0.531	0.471-0.591
Benzene	10.64	11.06	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.06	1.081	ok	1.082	1.022-1.142
Bromoform	18.98	17.72	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.75	0.562	ok	0.562	0.502-0.622
Bromoethene	5.41	8.75	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.72	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.72	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.83	17.72	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.75	0.783	ok	0.783	0.723-0.843
Chlorobenzene	17.80	17.72	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.75	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.75	0.758	ok	0.758	0.698-0.818
2-Chlorotoluene	21.95	17.72	1.239	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.06	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.75	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.72	0.893	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.75	1.114	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.70	11.06	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.77	11.06	1.335	ok	1.336	1.276-1.396
1,4-Dioxane	12.15	11.06	1.099	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.75	0.472	ok	0.472	0.412-0.532
Dibromochloromethane	15.42	17.72	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.75	0.851	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.23	11.06	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.86	17.72	1.347	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.79	17.72	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.03	17.72	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.06	1.267	ok	1.268	1.208-1.328
Ethanol	5.26	8.75	0.601	ok	0.604	0.544-0.664
Ethylbenzene	18.49	17.72	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.81	8.75	1.007	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.72	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.39	8.75	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.06	1.120	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.72	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.002	0.942-1.062
2-Hexanone	15.24	17.72	0.860	ok	0.862	0.802-0.922
Isopropylbenzene	20.93	17.72	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.93	8.75	0.678	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.72	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.75	0.928	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.36	11.06	1.208	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.75	8.75	0.886	ok	0.888	0.828-0.948
Methylmethacrylate	12.29	11.06	1.111	ok	1.112	1.052-1.172
Naphthalene	28.25	17.72	1.594	ok	1.594	1.534-1.654
Nonane	20.17	17.72	1.138	ok	1.138	1.078-1.198
Pentane	6.13	8.75	0.701	ok	0.700	0.640-0.760
Propylene	4.05	8.75	0.463	ok	0.463	0.403-0.523
Styrene	19.52	17.72	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.77	17.72	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.73	17.72	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.06	1.292	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.06	17.72	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.51	17.72	1.327	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.55	17.72	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.06	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.52	8.75	0.745	ok	0.750	0.690-0.810
tert-Butylbenzene	23.49	17.72	1.326	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.72	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.43	8.75	1.078	ok	1.082	1.022-1.142
Toluene	14.73	11.06	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.06	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.75	0.663	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.75	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.80	8.75	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.72	1.063	ok	1.063	1.003-1.123
o-Xylene	19.73	17.72	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	372160	ok	339366	203620-475112
1,4-Difluorobenzene	11.06	ok	11.06	10.73-11.39	2115378	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.72	ok	17.73	17.40-18.06	756373	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.69	8.74	0.651	ok	0.651	0.591-0.711
Acrolein	5.54	8.74	0.634	ok	0.633	0.573-0.693
Acrylonitrile	6.10	8.74	0.698	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.74	0.532	ok	0.531	0.471-0.591
Benzene	10.63	11.05	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.05	1.081	ok	1.082	1.022-1.142
Bromoform	18.96	17.71	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.74	0.563	ok	0.562	0.502-0.622
Bromoethene	5.42	8.74	0.620	ok	0.619	0.559-0.679
n-Butylbenzene	25.40	17.71	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.71	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.82	17.71	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.74	0.785	ok	0.783	0.723-0.843
Chlorobenzene	17.79	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.74	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.93	17.71	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.05	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.69	11.05	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.24	11.05	1.108	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.74	0.979	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.85	17.71	1.347	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.78	17.71	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.02	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.31	8.74	0.608	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.71	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.82	8.74	1.009	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.71	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.74	0.775	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.88	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.002	0.942-1.062
2-Hexanone	15.27	17.71	0.862	ok	0.862	0.802-0.922
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.95	8.74	0.681	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.71	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.74	0.746	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.14	8.74	0.931	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.37	11.05	1.210	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.76	8.74	0.888	ok	0.888	0.828-0.948
Methylmethacrylate	12.28	11.05	1.111	ok	1.112	1.052-1.172
Naphthalene	28.24	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.17	17.71	1.139	ok	1.138	1.078-1.198
Pentane	6.13	8.74	0.701	ok	0.700	0.640-0.760
Propylene	4.06	8.74	0.465	ok	0.463	0.403-0.523
Styrene	19.52	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.71	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.28	11.05	1.292	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.71	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.54	8.74	0.748	ok	0.750	0.690-0.810
tert-Butylbenzene	23.48	17.71	1.326	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.71	0.937	ok	0.936	0.876-0.996
Tetrahydrofuran	9.46	8.74	1.082	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.74	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.81	8.74	0.894	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.71	1.064	ok	1.063	1.003-1.123
o-Xylene	19.72	17.71	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	329164	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	1814624	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.71	ok	17.73	17.40-18.06	769261	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.76	8.75	0.658	ok	0.651	0.591-0.711
Acrolein	5.59	8.75	0.639	ok	0.633	0.573-0.693
Acrylonitrile	6.14	8.75	0.702	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.75	0.533	ok	0.531	0.471-0.591
Benzene	10.64	11.05	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.05	1.081	ok	1.082	1.022-1.142
Bromoform	18.97	17.71	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.75	0.562	ok	0.562	0.502-0.622
Bromoethene	5.42	8.75	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.71	1.435	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.71	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.83	17.71	1.346	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.75	0.784	ok	0.783	0.723-0.843
Chlorobenzene	17.80	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.75	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.64	8.75	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.94	17.71	1.239	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.05	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.75	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.75	1.114	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.70	11.05	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.38	11.05	1.120	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.14	8.75	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.46	8.75	0.853	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.23	11.05	1.197	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.85	17.71	1.347	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.79	17.71	1.400	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.02	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.37	8.75	0.614	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.71	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.88	8.75	1.015	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.71	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.40	8.75	0.503	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.71	1.632	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.002	0.942-1.062
2-Hexanone	15.38	17.71	0.868	ok	0.862	0.802-0.922
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.09	8.75	0.696	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.71	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.21	8.75	0.938	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.43	11.05	1.215	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.82	8.75	0.894	ok	0.888	0.828-0.948
Methylmethacrylate	12.31	11.05	1.114	ok	1.112	1.052-1.172
Naphthalene	28.26	17.71	1.596	ok	1.594	1.534-1.654
Nonane	20.17	17.71	1.139	ok	1.138	1.078-1.198
Pentane	6.13	8.75	0.701	ok	0.700	0.640-0.760
Propylene	4.06	8.75	0.464	ok	0.463	0.403-0.523
Styrene	19.52	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.71	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.71	1.585	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.72	8.75	0.768	ok	0.750	0.690-0.810
tert-Butylbenzene	23.48	17.71	1.326	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.71	0.937	ok	0.936	0.876-0.996
Tetrahydrofuran	9.54	8.75	1.090	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.75	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.75	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.83	8.75	0.895	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.71	1.064	ok	1.063	1.003-1.123
o-Xylene	19.73	17.71	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	353828	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	1775167	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.71	ok	17.73	17.40-18.06	563094	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.78	8.74	0.661	ok	0.651	0.591-0.711
1,3-Butadiene	4.64	8.74	0.531	ok	0.531	0.471-0.591
Benzene	10.63	11.05	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.05	1.082	ok	1.082	1.022-1.142
Bromoform	18.96	17.71	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.74	0.563	ok	0.562	0.502-0.622
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.71	1.435	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.71	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.83	17.71	1.346	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.74	0.785	ok	0.783	0.723-0.843
Chlorobenzene	17.79	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.29	8.74	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.74	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.93	17.71	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.05	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.70	11.05	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.74	0.979	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.84	17.71	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.78	17.71	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.37	8.74	0.614	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.71	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.88	8.74	1.016	ok	1.010	0.950-1.070
4-Ethyltoluene	22.35	17.71	1.262	ok	1.262	1.202-1.322
Freon 113	6.77	8.74	0.775	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Hexachlorobutadiene	28.88	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.002	0.942-1.062
2-Hexanone	15.35	17.71	0.867	ok	0.862	0.802-0.922
Isopropylbenzene	20.91	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.10	8.74	0.698	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.51	17.71	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.74	0.746	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.22	8.74	0.941	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.44	11.05	1.216	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.84	8.74	0.897	ok	0.888	0.828-0.948
Methylmethacrylate	12.31	11.05	1.114	ok	1.112	1.052-1.172
Naphthalene	28.25	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.71	1.138	ok	1.138	1.078-1.198
Pentane	6.12	8.74	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.74	0.463	ok	0.463	0.403-0.523
Styrene	19.51	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.75	17.71	1.002	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.71	17.71	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.71	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.49	17.71	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
tert-Butylbenzene	23.47	17.71	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.71	0.937	ok	0.936	0.876-0.996
Tetrahydrofuran	9.57	8.74	1.095	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.74	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.84	8.74	0.897	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.71	1.063	ok	1.063	1.003-1.123
o-Xylene	19.72	17.71	1.113	ok	1.114	1.054-1.174

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	280820	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	1535783	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.71	ok	17.73	17.40-18.06	591952	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.79	8.75	0.662	ok	0.650	0.590-0.710
Acrolein	5.60	8.75	0.640	ok	0.633	0.573-0.693
Acrylonitrile	6.15	8.75	0.703	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.75	0.533	ok	0.532	0.472-0.592
Benzene	10.64	11.05	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.05	1.081	ok	1.082	1.022-1.142
Bromoform	18.96	17.71	1.071	ok	1.072	1.012-1.132
Bromomethane	4.93	8.75	0.563	ok	0.563	0.503-0.623
Bromoethene	5.42	8.75	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.40	17.71	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.71	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.82	17.71	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.75	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.79	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.09	8.75	0.582	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.64	8.75	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.93	17.71	1.238	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.05	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.75	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.75	1.114	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.69	11.05	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.42	11.05	1.124	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.14	8.75	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.46	8.75	0.853	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.84	17.71	1.346	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.77	17.71	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.39	8.75	0.616	ok	0.603	0.543-0.663
Ethylbenzene	18.48	17.71	1.043	ok	1.044	0.984-1.104
Ethyl Acetate	8.89	8.75	1.016	ok	1.009	0.949-1.069
4-Ethyltoluene	22.35	17.71	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.40	8.75	0.503	ok	0.502	0.442-0.562
Heptane	12.38	11.05	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.003	0.943-1.063
2-Hexanone	15.38	17.71	0.868	ok	0.861	0.801-0.921
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.13	8.75	0.701	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.51	17.71	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.22	8.75	0.939	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.44	11.05	1.216	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.83	8.75	0.895	ok	0.890	0.830-0.950
Methylmethacrylate	12.31	11.05	1.114	ok	1.112	1.052-1.172
Naphthalene	28.25	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.71	1.138	ok	1.139	1.079-1.199
Pentane	6.13	8.75	0.701	ok	0.701	0.641-0.761
Propylene	4.07	8.75	0.465	ok	0.464	0.404-0.524
Styrene	19.51	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.71	1.113	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.71	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.77	8.75	0.774	ok	0.752	0.692-0.812
tert-Butylbenzene	23.48	17.71	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.59	17.71	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.57	8.75	1.094	ok	1.085	1.025-1.145
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.75	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.53	8.75	0.518	ok	0.517	0.457-0.577
Vinyl Acetate	7.84	8.75	0.896	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.71	1.063	ok	1.064	1.004-1.124
o-Xylene	19.72	17.71	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	856402	ok	827778	496667-1158889
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	4772236	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.71	ok	17.72	17.39-18.05	2257593	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,3-Butadiene	4.66	8.75	0.533	ok	0.532	0.472-0.592
Benzene	10.64	11.06	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.06	1.081	ok	1.082	1.022-1.142
Bromoform	18.97	17.71	1.071	ok	1.072	1.012-1.132
Bromomethane	4.93	8.75	0.563	ok	0.563	0.503-0.623
Bromoethene	5.42	8.75	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.71	1.435	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.71	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.85	17.71	1.347	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.75	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.80	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.09	8.75	0.582	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.65	8.75	0.760	ok	0.759	0.699-0.819
2-Chlorotoluene	21.94	17.71	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.06	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.75	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.77	8.75	1.117	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.71	11.06	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.77	11.06	1.335	ok	1.336	1.276-1.396
Dichlorodifluoromethane	4.13	8.75	0.472	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.47	8.75	0.854	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.25	11.06	1.198	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.86	17.71	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.79	17.71	1.400	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.03	17.71	1.357	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.03	11.06	1.269	ok	1.268	1.208-1.328
Ethylbenzene	18.48	17.71	1.043	ok	1.044	0.984-1.104
4-Ethyltoluene	22.36	17.71	1.263	ok	1.262	1.202-1.322
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.40	8.75	0.503	ok	0.502	0.442-0.562
Heptane	12.39	11.06	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.003	0.943-1.063
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
p-Isopropyltoluene	24.52	17.71	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl Tert Butyl Ether	7.93	8.75	0.906	ok	0.890	0.830-0.950
Naphthalene	28.25	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.17	17.71	1.139	ok	1.139	1.079-1.199
Pentane	6.13	8.75	0.701	ok	0.701	0.641-0.761
Propylene	4.07	8.75	0.465	ok	0.464	0.404-0.524
Styrene	19.52	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.77	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.73	17.71	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.30	11.06	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.71	1.585	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.04	11.06	1.089	ok	1.089	1.029-1.149
tert-Butylbenzene	23.48	17.71	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.60	17.71	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.72	8.75	1.111	ok	1.085	1.025-1.145
Toluene	14.73	11.06	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.06	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.75	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.53	8.75	0.518	ok	0.517	0.457-0.577
m,p-Xylene	18.84	17.71	1.064	ok	1.064	1.004-1.124
o-Xylene	19.73	17.71	1.114	ok	1.114	1.054-1.174

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	757200	ok	827778	496667-1158889
1,4-Difluorobenzene	11.06	ok	11.06	10.73-11.39	4081077	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.71	ok	17.72	17.39-18.05	1574607	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.67	8.77	0.647	ok	0.650	0.590-0.710
Acrolein	5.53	8.77	0.631	ok	0.633	0.573-0.693
Acrylonitrile	6.10	8.77	0.696	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.77	0.531	ok	0.532	0.472-0.592
Benzene	10.67	11.10	0.961	ok	0.962	0.902-1.022
Bromodichloromethane	12.02	11.10	1.083	ok	1.082	1.022-1.142
Bromoform	19.09	17.77	1.074	ok	1.072	1.012-1.132
Bromomethane	4.93	8.77	0.562	ok	0.563	0.503-0.623
Bromoethene	5.42	8.77	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.44	17.77	1.432	ok	1.434	1.374-1.494
sec-Butylbenzene	24.21	17.77	1.362	ok	1.363	1.303-1.423
Benzyl Chloride	23.92	17.77	1.346	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.77	0.782	ok	0.784	0.724-0.844
Chlorobenzene	17.86	17.77	1.005	ok	1.005	0.945-1.065
Chloroethane	5.09	8.77	0.580	ok	0.581	0.521-0.641
Chloroform	8.92	8.77	1.017	ok	1.016	0.956-1.076
Chloromethane	4.31	8.77	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.65	8.77	0.758	ok	0.759	0.699-0.819
2-Chlorotoluene	22.02	17.77	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.85	8.77	1.237	ok	1.237	1.177-1.297
Cyclohexane	11.00	11.10	0.991	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.69	8.77	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.42	8.77	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.91	17.77	0.895	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.80	8.77	1.117	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.75	11.10	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.84	11.10	1.337	ok	1.336	1.276-1.396
1,4-Dioxane	12.19	11.10	1.098	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.14	8.77	0.472	ok	0.472	0.412-0.532
Dibromochloromethane	15.49	17.77	0.872	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.47	8.77	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.58	8.77	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.28	11.10	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.93	17.77	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.85	17.77	1.398	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.10	17.77	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.08	11.10	1.268	ok	1.268	1.208-1.328
Ethanol	5.28	8.77	0.602	ok	0.603	0.543-0.663
Ethylbenzene	18.55	17.77	1.044	ok	1.044	0.984-1.104
Ethyl Acetate	8.87	8.77	1.011	ok	1.009	0.949-1.069
4-Ethyltoluene	22.44	17.77	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.77	0.772	ok	0.773	0.713-0.833
Freon 114	4.41	8.77	0.503	ok	0.502	0.442-0.562
Heptane	12.42	11.10	1.119	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.90	17.77	1.626	ok	1.630	1.570-1.690
Hexane	8.79	8.77	1.002	ok	1.003	0.943-1.063
2-Hexanone	15.33	17.77	0.863	ok	0.861	0.801-0.921
Isopropylbenzene	21.00	17.77	1.182	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.06	8.77	0.691	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.59	17.77	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.53	8.77	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.17	8.77	0.932	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.43	11.10	1.210	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.76	8.77	0.885	ok	0.890	0.830-0.950
Methylmethacrylate	12.35	11.10	1.113	ok	1.112	1.052-1.172
Naphthalene	28.27	17.77	1.591	ok	1.594	1.534-1.654
Nonane	20.22	17.77	1.138	ok	1.139	1.079-1.199
Pentane	6.14	8.77	0.700	ok	0.701	0.641-0.761
Propylene	4.07	8.77	0.464	ok	0.464	0.404-0.524
Styrene	19.61	17.77	1.104	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.09	8.77	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.83	17.77	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.84	17.77	1.116	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.37	11.10	1.295	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.77	1.580	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.59	17.77	1.328	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.63	17.77	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.08	11.10	1.088	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.68	8.77	0.762	ok	0.752	0.692-0.812
tert-Butylbenzene	23.56	17.77	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.63	17.77	0.936	ok	0.937	0.877-0.997
Tetrahydrofuran	9.45	8.77	1.078	ok	1.085	1.025-1.145
Toluene	14.77	11.10	1.331	ok	1.332	1.272-1.392
Trichloroethylene	12.05	11.10	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.77	0.662	ok	0.664	0.604-0.724
Vinyl chloride	4.53	8.77	0.517	ok	0.517	0.457-0.577
Vinyl Acetate	7.84	8.77	0.894	ok	0.893	0.833-0.953
m,p-Xylene	18.90	17.77	1.064	ok	1.064	1.004-1.124
o-Xylene	19.82	17.77	1.115	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.77	ok	8.75	8.42-9.08	825665	ok	827778	496667-1158889
1,4-Difluorobenzene	11.10	ok	11.06	10.73-11.39	4744510	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.77	ok	17.72	17.39-18.05	2165524	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	Reporting this level
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.66	8.76	0.646	ok	0.650	0.590-0.710
Acrolein	5.53	8.76	0.631	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.76	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.76	0.532	ok	0.532	0.472-0.592
Benzene	10.65	11.07	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.97	11.07	1.081	ok	1.082	1.022-1.142
Bromoform	19.00	17.73	1.072	ok	1.072	1.012-1.132
Bromomethane	4.92	8.76	0.562	ok	0.563	0.503-0.623
Bromoethene	5.42	8.76	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.73	1.433	ok	1.434	1.374-1.494
sec-Butylbenzene	24.16	17.73	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.84	17.73	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.76	0.783	ok	0.784	0.724-0.844
Chlorobenzene	17.81	17.73	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.76	0.580	ok	0.581	0.521-0.641
Chloroform	8.90	8.76	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.76	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.64	8.76	0.758	ok	0.759	0.699-0.819
2-Chlorotoluene	21.96	17.73	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.83	8.76	1.236	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.07	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.76	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.76	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.86	17.73	0.895	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.77	8.76	1.115	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.71	11.07	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.78	11.07	1.335	ok	1.336	1.276-1.396
1,4-Dioxane	12.11	11.07	1.094	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.76	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.44	17.73	0.871	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.76	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.76	0.977	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.24	11.07	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.87	17.73	1.346	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.80	17.73	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.04	17.73	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.03	11.07	1.267	ok	1.268	1.208-1.328
Ethanol	5.23	8.76	0.597	ok	0.603	0.543-0.663
Ethylbenzene	18.50	17.73	1.043	ok	1.044	0.984-1.104
Ethyl Acetate	8.82	8.76	1.007	ok	1.009	0.949-1.069
4-Ethyltoluene	22.38	17.73	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	Reporting this level
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.76	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.76	0.501	ok	0.502	0.442-0.562
Heptane	12.40	11.07	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.73	1.629	ok	1.630	1.570-1.690
Hexane	8.77	8.76	1.001	ok	1.003	0.943-1.063
2-Hexanone	15.22	17.73	0.858	ok	0.861	0.801-0.921
Isopropylbenzene	20.94	17.73	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.95	8.76	0.679	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.54	17.73	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.76	0.744	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.76	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.36	11.07	1.207	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.75	8.76	0.885	ok	0.890	0.830-0.950
Methylmethacrylate	12.30	11.07	1.111	ok	1.112	1.052-1.172
Naphthalene	28.25	17.73	1.593	ok	1.594	1.534-1.654
Nonane	20.18	17.73	1.138	ok	1.139	1.079-1.199
Pentane	6.13	8.76	0.700	ok	0.701	0.641-0.761
Propylene	4.06	8.76	0.463	ok	0.464	0.404-0.524
Styrene	19.54	17.73	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.07	8.76	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.78	17.73	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.75	17.73	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.31	11.07	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.73	1.582	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.52	17.73	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.57	17.73	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.05	11.07	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.54	8.76	0.747	ok	0.752	0.692-0.812
tert-Butylbenzene	23.50	17.73	1.325	ok	1.326	1.266-1.386
Tetrachloroethylene	16.60	17.73	0.936	ok	0.937	0.877-0.997
Tetrahydrofuran	9.42	8.76	1.075	ok	1.085	1.025-1.145
Toluene	14.74	11.07	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.02	11.07	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.76	0.663	ok	0.664	0.604-0.724
Vinyl chloride	4.52	8.76	0.516	ok	0.517	0.457-0.577
Vinyl Acetate	7.81	8.76	0.892	ok	0.893	0.833-0.953
m,p-Xylene	18.85	17.73	1.063	ok	1.064	1.004-1.124
o-Xylene	19.75	17.73	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	Reporting this level
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.76	ok	8.75	8.42-9.08	783989	ok	827778	496667-1158889
1,4-Difluorobenzene	11.07	ok	11.06	10.73-11.39	4355078	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.73	ok	17.72	17.39-18.05	2545304	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.74	0.646	ok	0.650	0.590-0.710
Acrolein	5.52	8.74	0.632	ok	0.633	0.573-0.693
Acrylonitrile	6.07	8.74	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.74	0.532	ok	0.532	0.472-0.592
Benzene	10.64	11.06	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.06	1.081	ok	1.082	1.022-1.142
Bromoform	18.99	17.72	1.072	ok	1.072	1.012-1.132
Bromomethane	4.92	8.74	0.563	ok	0.563	0.503-0.623
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.72	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.72	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.84	17.72	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.80	17.72	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.492	0.432-0.552
3-Chloropropene	6.63	8.74	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.95	17.72	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.06	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.84	17.72	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.70	11.06	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.77	11.06	1.335	ok	1.336	1.276-1.396
1,4-Dioxane	12.11	11.06	1.095	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.42	17.72	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.74	0.979	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.23	11.06	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.86	17.72	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.79	17.72	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.03	17.72	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.06	1.267	ok	1.268	1.208-1.328
Ethanol	5.23	8.74	0.598	ok	0.603	0.543-0.663
Ethylbenzene	18.49	17.72	1.043	ok	1.044	0.984-1.104
Ethyl Acetate	8.80	8.74	1.007	ok	1.009	0.949-1.069
4-Ethyltoluene	22.37	17.72	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.06	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.72	1.630	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.003	0.943-1.063
2-Hexanone	15.22	17.72	0.859	ok	0.861	0.801-0.921
Isopropylbenzene	20.93	17.72	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.92	8.74	0.677	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.52	17.72	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.11	8.74	0.928	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.35	11.06	1.207	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.74	8.74	0.886	ok	0.890	0.830-0.950
Methylmethacrylate	12.28	11.06	1.110	ok	1.112	1.052-1.172
Naphthalene	28.24	17.72	1.594	ok	1.594	1.534-1.654
Nonane	20.18	17.72	1.139	ok	1.139	1.079-1.199
Pentane	6.13	8.74	0.701	ok	0.701	0.641-0.761
Propylene	4.05	8.74	0.463	ok	0.464	0.404-0.524
Styrene	19.53	17.72	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.77	17.72	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.74	17.72	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.30	11.06	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.72	1.583	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.51	17.72	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.56	17.72	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.04	11.06	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.51	8.74	0.745	ok	0.752	0.692-0.812
tert-Butylbenzene	23.50	17.72	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.60	17.72	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.42	8.74	1.078	ok	1.085	1.025-1.145
Toluene	14.73	11.06	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.06	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.52	8.74	0.517	ok	0.517	0.457-0.577
Vinyl Acetate	7.79	8.74	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.85	17.72	1.064	ok	1.064	1.004-1.124
o-Xylene	19.74	17.72	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	875327	ok	827778	496667-1158889
1,4-Difluorobenzene	11.06	ok	11.06	10.73-11.39	4825730	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.72	ok	17.72	17.39-18.05	2051209	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.74	0.646	ok	0.650	0.590-0.710
Acrolein	5.53	8.74	0.633	ok	0.633	0.573-0.693
Acrylonitrile	6.07	8.74	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.64	8.74	0.531	ok	0.532	0.472-0.592
Benzene	10.63	11.04	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.04	1.082	ok	1.082	1.022-1.142
Bromoform	18.96	17.70	1.071	ok	1.072	1.012-1.132
Bromomethane	4.91	8.74	0.562	ok	0.563	0.503-0.623
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.39	17.70	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.70	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.81	17.70	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.78	17.70	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.492	0.432-0.552
3-Chloropropene	6.63	8.74	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.93	17.70	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.04	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.65	8.74	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.82	17.70	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.69	11.04	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.75	11.04	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.12	11.04	1.098	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.70	0.871	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.55	8.74	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.04	1.197	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.84	17.70	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.77	17.70	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.70	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	13.99	11.04	1.267	ok	1.268	1.208-1.328
Ethanol	5.22	8.74	0.597	ok	0.603	0.543-0.663
Ethylbenzene	18.48	17.70	1.044	ok	1.044	0.984-1.104
Ethyl Acetate	8.79	8.74	1.006	ok	1.009	0.949-1.069
4-Ethyltoluene	22.35	17.70	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.38	11.04	1.121	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.70	1.632	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.003	0.943-1.063
2-Hexanone	15.20	17.70	0.859	ok	0.861	0.801-0.921
Isopropylbenzene	20.92	17.70	1.182	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.89	8.74	0.674	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.51	17.70	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.10	8.74	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.32	11.04	1.207	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.74	8.74	0.886	ok	0.890	0.830-0.950
Methylmethacrylate	12.27	11.04	1.111	ok	1.112	1.052-1.172
Naphthalene	28.24	17.70	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.70	1.139	ok	1.139	1.079-1.199
Pentane	6.12	8.74	0.700	ok	0.701	0.641-0.761
Propylene	4.05	8.74	0.463	ok	0.464	0.404-0.524
Styrene	19.51	17.70	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.05	8.74	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.75	17.70	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.71	17.70	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.28	11.04	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.70	1.585	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.70	1.328	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.70	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.03	11.04	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.47	8.74	0.740	ok	0.752	0.692-0.812
tert-Butylbenzene	23.47	17.70	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.59	17.70	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.41	8.74	1.077	ok	1.085	1.025-1.145
Toluene	14.72	11.04	1.333	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.04	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.51	8.74	0.516	ok	0.517	0.457-0.577
Vinyl Acetate	7.79	8.74	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.70	1.064	ok	1.064	1.004-1.124
o-Xylene	19.72	17.70	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	848884	ok	827778	496667-1158889
1,4-Difluorobenzene	11.04	ok	11.06	10.73-11.39	4621404	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.70	ok	17.72	17.39-18.05	2381019	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

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Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.68	8.74	0.650	ok	0.650	0.590-0.710
Acrolein	5.54	8.74	0.634	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.74	0.697	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.74	0.532	ok	0.532	0.472-0.592
Benzene	10.63	11.04	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.94	11.04	1.082	ok	1.082	1.022-1.142
Bromoform	18.96	17.70	1.071	ok	1.072	1.012-1.132
Bromomethane	4.92	8.74	0.563	ok	0.563	0.503-0.623
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.39	17.70	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.70	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.81	17.70	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.78	17.70	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.492	0.432-0.552
3-Chloropropene	6.63	8.74	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.93	17.70	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.04	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.81	17.70	0.893	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.69	11.04	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.75	11.04	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.19	11.04	1.104	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.40	17.70	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.55	8.74	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.04	1.197	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.84	17.70	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.77	17.70	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.70	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	13.99	11.04	1.267	ok	1.268	1.208-1.328
Ethanol	5.29	8.74	0.605	ok	0.603	0.543-0.663
Ethylbenzene	18.47	17.70	1.044	ok	1.044	0.984-1.104
Ethyl Acetate	8.81	8.74	1.008	ok	1.009	0.949-1.069
4-Ethyltoluene	22.35	17.70	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.38	11.04	1.121	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.87	17.70	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.003	0.943-1.063
2-Hexanone	15.23	17.70	0.860	ok	0.861	0.801-0.921
Isopropylbenzene	20.91	17.70	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.93	8.74	0.678	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.51	17.70	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.74	0.929	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.36	11.04	1.210	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.76	8.74	0.888	ok	0.890	0.830-0.950
Methylmethacrylate	12.28	11.04	1.112	ok	1.112	1.052-1.172
Naphthalene	28.23	17.70	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.70	1.139	ok	1.139	1.079-1.199
Pentane	6.13	8.74	0.701	ok	0.701	0.641-0.761
Propylene	4.05	8.74	0.463	ok	0.464	0.404-0.524
Styrene	19.51	17.70	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.05	8.74	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.75	17.70	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.71	17.70	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.27	11.04	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.04	17.70	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.49	17.70	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.70	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.03	11.04	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.52	8.74	0.746	ok	0.752	0.692-0.812
tert-Butylbenzene	23.47	17.70	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.59	17.70	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.44	8.74	1.080	ok	1.085	1.025-1.145
Toluene	14.72	11.04	1.333	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.04	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.52	8.74	0.517	ok	0.517	0.457-0.577
Vinyl Acetate	7.80	8.74	0.892	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.70	1.064	ok	1.064	1.004-1.124
o-Xylene	19.72	17.70	1.114	ok	1.114	1.054-1.174

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MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	Reporting this level

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	846981	ok	827778	496667-1158889
1,4-Difluorobenzene	11.04	ok	11.06	10.73-11.39	4735459	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.70	ok	17.72	17.39-18.05	2079433	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.86	0.585	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.77	8.86	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.86	0.737	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.86	1.113	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.57	8.86	0.854	ok	0.854	0.794-0.914
Freon 113	6.88	8.86	0.777	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.86	1.149	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.12	11.15	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.86	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.86	ok	8.87	8.54-9.20	632538	ok	655624	393374-917874
1,4-Difluorobenzene	11.15	ok	11.16	10.83-11.49	2928502	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1077681	ok	1263060	757836-1768284

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MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.58	8.87	0.855	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.12	11.16	1.086	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	671052	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3281079	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1234979	ok	1263060	757836-1768284

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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.58	8.87	0.855	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.13	11.16	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	681383	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3294900	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1279694	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.58	8.87	0.855	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.13	11.16	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	680785	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3314362	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1298027	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.57	8.87	0.853	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.13	11.16	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	638144	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	2988725	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1317869	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.57	8.87	0.853	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.12	11.16	1.086	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	629840	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3130574	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1370107	ok	1263060	757836-1768284

Volatile Surrogate Recovery Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Method: TO-15	**Matrix:** AIR

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
MC27979-1	J26776.D	100.0
MC27979-1	J26771.D	70.0
MC27979-2	J26781.D	88.0
MC27979-2	J26777.D	69.0
MC27979-3	J26773.D	87.0
MC27979-3	J26772.D	111.0
MC27979-4	J26775.D	82.0
MC27979-5	J26769.D	44.0* [a]
MC27979-5	J26770.D	92.0
MC27979-4DUP	J26778.D	78.0
MC28079-1DUP	J26783.D	124.0
MSJ1375-SCC	J26640.D	112.0
MSJ1379-SCC	J26719.D	71.0
MSJ1381-BS	J26766B.D	114.0
MSJ1381-MB	J26767.D	97.0
MSJ1382-BS	J26779A.D	76.0
MSJ1382-MB	J26780.D	72.0
MSJ1375-BS	J26611A.D	86.0
MSJ1375-MB	J26612.D	77.0
MSJ1379-BS	J26715A.D	112.0
MSJ1379-MB	J26718.D	72.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	50-129%

(a) Outside control limits. Results confirmed by reanalysis.

Volatile Surrogate Recovery Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Method: TO-15 BY SIM **Matrix:** AIR

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
MC27979-1A	Q25753.D	103.0
MC27979-2A	Q25755.D	103.0
MC27979-3A	Q25756.D	101.0
MC27979-4A	Q25758.D	111.0
MC27979-5A	Q25757.D	107.0
MC27979-1ADUP	Q25754.D	104.0
MSQ1121-BS	Q25749B.D	102.0
MSQ1121-MB	Q25750.D	105.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	57-139%

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1373-ICC1373
Lab FileID: J26580.D

Response Factor Report MSJ

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Initial Calibration

Calibration Files
.2 =j26584.D .5 =j26583.D 2 =j26582.D 5 =j26581.D
10 =j26580.D 20 =j26579.D 40 =j26578.D

Compound	.2	.5	2	5	10	20	40	Avg	%RSD
1) I BROMOCHLOROMETHANE	ISTD								
2)m DICHLORODIFLUOROM	4.680	3.677	3.397	3.219	2.983	3.121	3.347	3.489	16.33
3)m PROPYLENE	0.861	0.680	0.630	0.595	0.555	0.574	0.599	0.642	16.32
4)m FREON 114	4.054	3.457	3.006	2.487	2.994	2.833	3.262	3.156	15.89
5)m CHLOROMETHANE	0.945	0.793	0.734	0.634	0.698	0.706	0.788	0.757	13.13
6)m VINYL CHLORIDE	1.177	1.032	0.952	0.822	0.930	0.927	1.048	0.984	11.50
7)m 1,3-BUTADIENE	0.627	0.567	0.540	0.473	0.558	0.548	0.640	0.565	9.96
8)m BROMOMETHANE	1.313	1.162	1.113	0.936	1.084	1.057	1.217	1.126	10.73
9)m CHLOROETHANE	0.466	0.420	0.436	0.375	0.428	0.400	0.471	0.428	7.98
10)m ACROLEIN		0.103	0.170	0.164	0.175	0.197	0.266	0.179	29.50
11)m TRICHLOROFLUOROME	3.764	3.252	2.895	2.471	2.857	2.711	3.287	3.034	14.22
12)m ISOPROPYL ALCOHOL	1.929	1.618	1.296	1.124	1.063	1.203	1.312	1.364	22.51
13)m ACETONE	1.048	0.967	0.881	0.752	0.727	0.806	0.966	0.878	13.82
14)m ACRYLONITRILE		0.293	0.388	0.355	0.383	0.435	0.579	0.406	23.92
15)m PENTANE	0.983	0.887	0.763	0.659	0.730	0.705	0.817	0.792	14.23
16)m 1,1-DICHLOROETHYL	1.411	1.153	1.115	0.968	1.079	1.044	1.215	1.141	12.51
17)m CARBON DISULFIDE	3.172	2.807	2.494	2.159	2.371	2.361	2.680	2.578	13.14
18)m ETHANOL	0.165	0.258	0.226	0.218	0.219	0.247	0.282	0.231	16.14
19)m BROMOETHENE	1.312	1.150	1.102	0.950	1.099	1.051	1.232	1.128	10.50
20)m METHYLENE CHLORID	1.386	1.085	0.932	0.821	0.884	0.871	1.011	0.999	19.30
21)m 3-CHLOROPROPENE	0.644	0.692	0.706	0.613	0.697	0.723	0.905	0.711	13.16
22)m FREON 113	2.584	2.210	2.123	1.871	2.063	1.963	2.316	2.161	11.00
23)m TRANS-1,2-DICHLOR	1.033	0.923	0.924	0.848	0.935	0.915	1.077	0.951	8.18
24)m TERTIARY BUTYL AL		1.719	1.625	1.382	1.304	1.461	1.625	1.519	10.63
25)m METHYL TERTIARY B	2.639	2.031	2.216	1.798	1.734	1.888	2.287	2.085	15.33
26)m TETRAHYDROFURAN	0.712	0.656	0.706	0.596	0.596	0.644	0.782	0.670	10.11
27)m HEXANE	1.875	1.461	1.333	1.163	1.308	1.242	1.467	1.407	16.61
28)m VINYL ACETATE	2.457	1.929	1.619	1.353	1.333	1.489	1.915	1.728	23.30
29)m 1,1-DICHLOROETHAN	1.813	1.748	1.595	1.445	1.675	1.650	1.985	1.702	10.05
30)m METHYL ETHYL KETO	1.684	1.399	1.251	1.085	1.006	1.151	1.333	1.273	17.88
31)m cis-1,2-DICHLOROE	1.175	1.128	1.053	0.975	1.161	1.123	1.338	1.136	9.90
32)m ETHYL ACETATE	1.473	1.318	1.299	1.127	1.288	1.268	1.324	1.299	7.82
33)m CHLOROFORM	2.579	2.263	2.121	1.941	2.227	2.188	2.645	2.281	10.96
34)m 1,1,1-TRICHLOROET	2.624	2.339	2.208	2.001	2.320	2.256	2.772	2.360	10.99
35)m CARBON TETRACHLOR	3.502	2.539	2.443	2.307	2.608	2.429	3.258	2.727	16.92
36)m 1,2-DICHLOROETHAN	1.218	1.071	1.075	0.919	1.216	1.210	1.604	1.188	18.01
37) I 1,4-DIFLUOROBENZENE	ISTD								
38)m BENZENE	0.753	0.568	0.492	0.407	0.570	0.586	0.691	0.581	19.89
39)m CYCLOHEXANE	0.413	0.305	0.262	0.249	0.267	0.263	0.307	0.295	19.12
40)m TRICHLOROETHYLENE	0.493	0.405	0.360	0.311	0.333	0.372	0.375	0.378	15.56
41)m 1,2-DICHLOROPROPA	0.274	0.181	0.218	0.165	0.206	0.233	0.283	0.223	19.82
42)m BROMODICHLOROMETH	0.530	0.454	0.419	0.370	0.453	0.515	0.555	0.471	13.99
43)m 2,2,4-TRIMETHYLPE	1.341	0.993	1.117	0.930	1.051	1.117	1.118	1.095	11.88
44)m 1,4-DIOXANE		0.093	0.075	0.068	0.073	0.090	0.089	0.081	12.98
45)m METHYL METHACRYLA	0.245	0.182	0.211	0.179	0.186	0.228	0.243	0.210	13.77

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1373-ICC1373
Lab FileID: J26580.D

```
46)m HEPTANE           0.503 0.391 0.390 0.318 0.360 0.391 0.413 0.395  14.28
47)m METHYL ISOBUTYL K       0.369 0.313 0.265 0.274 0.342 0.349 0.319  13.24
48)m cis-1,3-DICHLOROP 0.346 0.261 0.304 0.255 0.319 0.374 0.436 0.328  19.52
49)m TOLUENE           0.586 0.386 0.462 0.367 0.414 0.486 0.592 0.471  19.31
50)m trans-1,3-DICHLOR 0.318 0.242 0.304 0.253 0.294 0.357 0.428 0.314  20.24
51)m 1,1,2-TRICHLOROET 0.358 0.236 0.233 0.188 0.214 0.250 0.302 0.254  22.58
52)m 1,3-DICHLOROPROPA       0.315 0.355 0.282 0.304 0.368 0.440 0.344  16.49

53) I   CHLOROBENZENE-D5      ----------------ISTD--------------------
54)m 2-HEXANONE             1.396 0.757 0.774 0.637 0.701 0.799 0.844  32.77
            ---- Linear regression ----  Coefficient =  0.9937
              Response Ratio = -0.04551 + 0.78907 *A

55)m TETRACHLOROETHYLE 1.345 1.281 0.879 0.895 0.813 0.845 1.016 1.010  21.46
56)m DIBROMOCHLOROMETH 1.825 1.641 1.108 1.099 1.110 1.161 1.474 1.345  22.31
57)m 1,2-DIBROMOETHANE 1.432 1.243 0.937 0.894 0.834 0.910 1.211 1.066  21.34
58)m 1,1,1,2-TETRACHLO 1.464 1.163 0.865 0.830 0.778 0.819 1.102 1.003  25.14
59)m CHLOROBENZENE     2.785 2.208 1.638 1.531 1.417 1.508 2.012 1.871  26.50
60)m ETHYLBENZENE      4.229 3.166 2.710 2.550 2.059 2.261 3.052 2.861  25.22
61)m m,p-XYLENE        1.741 1.325 1.104 1.039 0.836 0.926 1.243 1.174  25.76
62)m o-XYLENE          1.947 1.402 1.142 1.071 0.860 0.956 1.278 1.237  29.35
63)m STYRENE           2.547 2.052 1.586 1.545 1.273 1.434 1.929 1.766  24.83
64)m NONANE            2.484 1.682 1.611 1.532 1.390 1.423 1.795 1.702  21.88
65)m BROMOFORM               1.970 1.210 1.197 1.105 1.213 1.629 1.387  24.46
66)S 4-BROMOFLUOROBENZ 0.562 0.551 0.618 0.487 0.642 0.476 0.551 0.555  10.99
67)m 1,1,2,2-TETRACHLO 4.222 3.069 1.930 1.841 1.438 1.608 1.945 2.293  43.54
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.12294 + 1.19945 *A + 0.17840 *A^2

68)m ISOPROPYLBENZENE        4.279 3.390 3.212 2.514 2.767 3.573 3.289  18.98
69)m 2-CHLOROTOLUENE   5.224 3.483 2.542 2.401 1.947 2.138 2.898 2.947  38.16
            ---- Quadratic regression ----  Coefficient =  0.9991
              Response Ratio = 0.18923 + 1.36352 *A + 0.37015 *A^2

70)m 4-ETHYLTOLUENE    6.079 6.215 3.289 3.157 2.461 2.771 3.404 3.911  39.92
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.22259 + 2.01156 *A + 0.33334 *A^2

71)m 1,3,5-TRIMETHYLBE 6.420 6.333 3.178 3.013 2.302 2.578 3.151 3.853  45.48
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.23182 + 1.87056 *A + 0.30479 *A^2

72)m TERT-BUTYLBENZENE 6.590 6.460 3.337 3.174 2.443 2.728 3.260 3.999  43.88
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.22725 + 2.05111 *A + 0.28736 *A^2

73)m 1,2,4-TRIMETHYLBE 6.372 6.500 3.142 2.998 2.310 2.609 3.094 3.861  46.20
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.21384 + 1.96531 *A + 0.26845 *A^2

74)m m-DICHLOROBENZENE 4.130 4.271 1.875 1.855 1.500 1.737 2.290 2.523  46.41
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = 0.14901 + 1.10679 *A + 0.28607 *A^2

75)m BENZYL CHLORIDE   3.681 4.800 2.031 2.250 1.849 2.182 2.620 2.773  38.90
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = 0.10737 + 1.62559 *A + 0.24216 *A^2

76)m p-DICHLOROBENZENE 4.106 4.462 1.895 1.840 1.462 1.692 2.215 2.525  48.60
            ---- Quadratic regression ----  Coefficient =  0.9994
```

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1373-ICC1373
Lab FileID: J26580.D

```
              Response Ratio = 0.15481 + 1.08398 *A + 0.27270 *A^2

77)m SEC-BUTYLBENZENE        9.241 4.578 4.381 3.354 3.714 4.393 4.944  43.63
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.41889 + 2.71417 *A + 0.39331 *A^2

78)m 4-ISOPROPYLTOLUEN 7.803 7.971 3.907 3.764 2.916 3.263 3.668 4.756  45.52
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.23605 + 2.64321 *A + 0.24150 *A^2

79)m o-DICHLOROBENZENE 4.490 4.652 1.938 1.893 1.485 1.698 2.199 2.622  51.48
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.16339 + 1.10899 *A + 0.26182 *A^2

80)m n-BUTYLBENZENE    6.993 7.408 3.398 3.367 2.632 2.963 3.280 4.292  46.81
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.19734 + 2.43775 *A + 0.19852 *A^2

81)m HEXACHLOROBUTADIE       2.993 1.144 1.065 0.867 0.983 1.320 1.396  57.13
            ---- Quadratic regression ----  Coefficient =  0.9997
              Response Ratio = 0.13840 + 0.55945 *A + 0.18122 *A^2

82)m 1,2,4-TRICHLOROBE 1.857 2.587 0.895 0.931 0.729 0.908 1.175 1.297  52.29
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.07023 + 0.57293 *A + 0.14612 *A^2

83)m NAPHTHALENE       4.913 7.831 2.603 2.697 2.182 2.714 3.388 3.761  53.28
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.17932 + 1.82043 *A + 0.38138 *A^2

--------------------------------------------------------------------------------
(#) = Out of Range

          J140117T.M        Fri Jan 17 09:29:21 2014
```

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1374-ICV1373
Lab FileID: J26585A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140117\j26585A.D Vial: 1
Acq On : 17 Jan 2014 9:36 am Operator: AkinA
Sample : ICV1373-10(m043) Inst : MSJ
Misc : ms30971,msj1374,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	90	0.00	8.74
2	m	DICHLORODIFLUOROMETHANE	3.489	3.140	10.0	95	0.00	4.12
3	m	PROPYLENE	0.642	0.562	12.5	92	0.00	4.05
4	m	FREON 114	3.156	2.670	15.4	81	0.00	4.38
5	m	CHLOROMETHANE	0.757	0.661	12.7	86	0.00	4.29
6	m	VINYL CHLORIDE	0.984	0.858	12.8	83	0.00	4.51
7	m	1,3-BUTADIENE	0.565	0.502	11.2	81	0.00	4.64
8	m	BROMOMETHANE	1.126	0.972	13.7	81	0.00	4.91
9	m	CHLOROETHANE	0.428	0.377	11.9	80	0.00	5.07
10	m	ACROLEIN	0.179	0.156	12.8	81	0.00	5.52
11	m	TRICHLOROFLUOROMETHANE	3.034	2.585	14.8	82	0.00	5.79
12	m	ISOPROPYL ALCOHOL	1.364	0.989	27.5	84	0.00	5.90
13	m	ACETONE	0.878	0.685	22.0	85	0.00	5.65
14	m	ACRYLONITRILE	0.406	0.339	16.5	80	0.00	6.07
15	m	PENTANE	0.792	0.650	17.9	81	0.00	6.12
16	m	1,1-DICHLOROETHYLENE	1.141	0.948	16.9	79	0.00	6.40
17	m	CARBON DISULFIDE	2.578	2.143	16.9	82	0.00	6.85
18	m	ETHANOL	0.231	0.200	13.4	83	0.00	5.22
19	m	BROMOETHENE	1.128	0.974	13.7	80	0.00	5.40
20	m	METHYLENE CHLORIDE	0.999	0.791	20.8	81	0.00	6.51
21	m	3-CHLOROPROPENE	0.711	0.633	11.0	82	0.00	6.63
22	m	FREON 113	2.161	1.829	15.4	80	0.00	6.75
23	m	TRANS-1,2-DICHLOROETHYLEN	0.951	0.824	13.4	80	0.00	7.45
24	m	TERTIARY BUTYL ALCOHOL	1.519	1.192	21.5	83	0.01	6.49
25	m	METHYL TERTIARY BUTYL ETH	2.085	1.594	23.5	83	0.00	7.74
26	m	TETRAHYDROFURAN	0.670	0.534	20.3	81	0.00	9.41
27	m	HEXANE	1.407	1.145	18.6	79	0.00	8.77
28	m	VINYL ACETATE	1.728	1.214	29.7	82	0.00	7.79
29	m	1,1-DICHLOROETHANE	1.702	1.526	10.3	82	0.00	7.65
30	m	METHYL ETHYL KETONE	1.273	0.960	24.6	86	0.00	8.11
31	m	cis-1,2-DICHLOROETHYLENE	1.136	1.002	11.8	78	0.00	8.55
32	m	ETHYL ACETATE	1.299	1.195	8.0	84	0.00	8.80
33	m	CHLOROFORM	2.281	1.991	12.7	81	0.00	8.88
34	m	1,1,1-TRICHLOROETHANE	2.360	2.063	12.6	80	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.727	2.213	18.8	77	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.188	1.018	14.3	76	0.00	9.75
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	80	0.00	11.05
38	m	BENZENE	0.581	0.493	15.1	69	0.00	10.64
39	m	CYCLOHEXANE	0.295	0.237	19.7	71	0.00	10.98
40	m	TRICHLOROETHYLENE	0.378	0.294	22.2	71	0.00	12.01
41	m	1,2-DICHLOROPROPANE	0.223	0.158	29.1	62	0.00	11.70

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1374-ICV1373
Lab FileID: J26585A.D

42	m	BROMODICHLOROMETHANE	0.471	0.396	15.9	70	0.00	11.96
43	m	2,2,4-TRIMETHYLPENTANE	1.095	0.854	22.0	65	0.00	12.04
44	m	1,4-DIOXANE	0.081	0.058	28.4	63	0.00	12.10
45	m	METHYL METHACRYLATE	0.210	0.153	27.1	66	0.00	12.28
46	m	HEPTANE	0.395	0.279	29.4	62	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.319	0.281	11.9	82	0.00	13.33
48	m	cis-1,3-DICHLOROPROPENE	0.328	0.306	6.7	77	0.00	13.23
49	m	TOLUENE	0.471	0.397	15.7	77	0.00	14.73
50	m	trans-1,3-DICHLOROPROPENE	0.314	0.290	7.6	79	0.00	14.01
51	m	1,1,2-TRICHLOROETHANE	0.254	0.208	18.1	78	0.00	14.29
52	m	1,3-DICHLOROPROPANE	0.344	0.310	9.9	82	0.00	14.77
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	79	0.00	17.72
		---------- Amount	Calc.	%Drift	----------			
54	m	2-HEXANONE	10.000	8.756	12.4	80	0.01	15.21
		---------- AvgRF	CCRF	%Dev	----------			
55	m	TETRACHLOROETHYLENE	1.010	0.820	18.8	79	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.345	1.092	18.8	77	0.00	15.42
57	m	1,2-DIBROMOETHANE	1.066	0.824	22.7	78	0.00	15.83
58	m	1,1,1,2-TETRACHLOROETHANE	1.003	0.753	24.9	76	0.00	17.77
59	m	CHLOROBENZENE	1.871	1.376	26.5	76	0.00	17.80
60	m	ETHYLBENZENE	2.861	2.144	25.1	82	0.00	18.49
61	m	m,p-XYLENE	1.174	0.871	25.8	82	0.00	18.84
62	m	o-XYLENE	1.237	0.907	26.7	83	0.00	19.74
63	m	STYRENE	1.766	1.333	24.5	82	0.00	19.52
64	m	NONANE	1.702	1.458	14.3	82	0.00	20.17
65	m	BROMOFORM	1.387	1.088	21.6	77	0.00	18.98
66	S	4-BROMOFLUOROBENZENE	0.555	0.486	12.4	60	0.00	20.64
		---------- Amount	Calc.	%Drift	----------			
67	m	1,1,2,2-TETRACHLOROETHANE	10.000	10.397	-4.0	86	0.01	19.73
		---------- AvgRF	CCRF	%Dev	----------			
68	m	ISOPROPYLBENZENE	3.289	2.691	18.2	84	0.00	20.93
		---------- Amount	Calc.	%Drift	----------			
69	m	2-CHLOROTOLUENE	10.000	10.620	-6.2	83	0.00	21.95
70	m	4-ETHYLTOLUENE	10.000	10.390	-3.9	85	0.00	22.36
71	m	1,3,5-TRIMETHYLBENZENE	10.000	10.441	-4.4	86	0.00	22.55
72	m	TERT-BUTYLBENZENE	10.000	10.420	-4.2	86	0.00	23.49
73	m	1,2,4-TRIMETHYLBENZENE	10.000	10.459	-4.6	87	0.00	23.51
74	m	m-DICHLOROBENZENE	10.000	10.351	-3.5	84	0.00	23.86
75	m	BENZYL CHLORIDE	10.000	10.404	-4.0	88	0.00	23.83
76	m	p-DICHLOROBENZENE	10.000	10.431	-4.3	85	0.00	24.03
77	m	SEC-BUTYLBENZENE	10.000	10.532	-5.3	87	0.00	24.15
78	m	4-ISOPROPYLTOLUENE	10.000	10.369	-3.7	87	0.00	24.52
79	m	o-DICHLOROBENZENE	10.000	10.457	-4.6	85	0.00	24.79
80	m	n-BUTYLBENZENE	10.000	10.426	-4.3	88	0.00	25.41
81	m	HEXACHLOROBUTADIENE	10.000	10.451	-4.5	84	-0.02	28.88
82	m	1,2,4-TRICHLOROBENZENE	10.000	9.632	3.7	82	-0.01	28.04
83	m	NAPHTHALENE	10.000	9.131	8.7	78	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26580.D J140117T.M Fri Jan 17 14:40:20 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1375-CC1373
Lab FileID: J26611.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140120\j26611.D Vial: 1
Acq On : 20 Jan 2014 1:54 pm Operator: AkinA
Sample : CC1373-10(m043) Inst : MSJ
Misc : ms30980,msj1375,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	93	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.489	3.534	-1.3	110	0.01	4.13
3	m	PROPYLENE	0.642	0.624	2.8	104	0.01	4.06
4	m	FREON 114	3.156	3.185	-0.9	99	0.01	4.39
5	m	CHLOROMETHANE	0.757	0.755	0.3	101	0.00	4.30
6	m	VINYL CHLORIDE	0.984	1.006	-2.2	101	0.00	4.52
7	m	1,3-BUTADIENE	0.565	0.605	-7.1	101	0.01	4.65
8	m	BROMOMETHANE	1.126	1.150	-2.1	99	0.00	4.92
9	m	CHLOROETHANE	0.428	0.438	-2.3	95	0.00	5.08
10	m	ACROLEIN	0.179	0.192	-7.3	102	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.034	3.221	-6.2	105	0.00	5.80
12	m	ISOPROPYL ALCOHOL	1.364	1.226	10.1	107	0.05	5.95
13	m	ACETONE	0.878	0.852	3.0	109	0.01	5.66
14	m	ACRYLONITRILE	0.406	0.429	-5.7	104	0.00	6.08
15	m	PENTANE	0.792	0.800	-1.0	102	0.00	6.13
16	m	1,1-DICHLOROETHYLENE	1.141	1.163	-1.9	100	0.00	6.41
17	m	CARBON DISULFIDE	2.578	2.658	-3.1	104	0.00	6.85
18	m	ETHANOL	0.231	0.242	-4.8	103	0.02	5.24
19	m	BROMOETHENE	1.128	1.161	-2.9	98	0.00	5.41
20	m	METHYLENE CHLORIDE	0.999	0.961	3.8	101	0.00	6.51
21	m	3-CHLOROPROPENE	0.711	0.796	-12.0	106	0.00	6.63
22	m	FREON 113	2.161	2.221	-2.8	100	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	0.951	1.010	-6.2	100	0.00	7.45
24	m	TERTIARY BUTYL ALCOHOL	1.519	1.515	0.3	108	0.06	6.54
25	m	METHYL TERTIARY BUTYL ETH	2.085	2.007	3.7	108	0.01	7.75
26	m	TETRAHYDROFURAN	0.670	0.645	3.7	101	0.02	9.43
27	m	HEXANE	1.407	1.321	6.1	94	0.00	8.77
28	m	VINYL ACETATE	1.728	1.590	8.0	111	0.01	7.80
29	m	1,1-DICHLOROETHANE	1.702	1.813	-6.5	101	0.01	7.67
30	m	METHYL ETHYL KETONE	1.273	1.227	3.6	113	0.02	8.12
31	m	cis-1,2-DICHLOROETHYLENE	1.136	1.160	-2.1	93	0.00	8.56
32	m	ETHYL ACETATE	1.299	1.249	3.8	90	0.02	8.82
33	m	CHLOROFORM	2.281	2.342	-2.7	98	0.00	8.88
34	m	1,1,1-TRICHLOROETHANE	2.360	2.485	-5.3	100	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.727	2.696	1.1	96	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.188	1.244	-4.7	95	0.01	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	84	0.01	11.06
38	m	BENZENE	0.581	0.563	3.1	83	0.00	10.64
39	m	CYCLOHEXANE	0.295	0.274	7.1	86	0.00	10.99
40	m	TRICHLOROETHYLENE	0.378	0.330	12.7	83	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.223	0.183	17.9	75	0.01	11.71

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1375-CC1373
Lab FileID: J26611.D

42	m	BROMODICHLOROMETHANE	0.471	0.461	2.1	85	0.01	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.095	0.951	13.2	76	0.00	12.05
44	m	1,4-DIOXANE	0.081	0.076	6.2	88	0.04	12.14
45	m	METHYL METHACRYLATE	0.210	0.181	13.8	82	0.02	12.30
46	m	HEPTANE	0.395	0.310	21.5	72	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.319	0.253	20.7	78	0.04	13.37
48	m	cis-1,3-DICHLOROPROPENE	0.328	0.296	9.8	78	0.01	13.23
49	m	TOLUENE	0.471	0.389	17.4	79	0.01	14.74
50	m	trans-1,3-DICHLOROPROPENE	0.314	0.286	8.9	82	0.02	14.02
51	m	1,1,2-TRICHLOROETHANE	0.254	0.204	19.7	80	0.02	14.31
52	m	1,3-DICHLOROPROPANE	0.344	0.300	12.8	83	0.02	14.78
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	69	0.02	17.74
		----------	Amount	Calc.	%Drift	----------		
54	m	2-HEXANONE	10.000	9.267	7.3	74	0.05	15.25
		----------	AvgRF	CCRF	%Dev	----------		
55	m	TETRACHLOROETHYLENE	1.010	1.046	-3.6	89	0.01	16.60
56	m	DIBROMOCHLOROMETHANE	1.345	1.378	-2.5	86	0.02	15.44
57	m	1,2-DIBROMOETHANE	1.066	1.029	3.5	85	0.02	15.85
58	m	1,1,1,2-TETRACHLOROETHANE	1.003	0.943	6.0	84	0.02	17.78
59	m	CHLOROBENZENE	1.871	1.673	10.6	81	0.02	17.81
60	m	ETHYLBENZENE	2.861	2.508	12.3	84	0.02	18.50
61	m	m,p-XYLENE	1.174	1.035	11.8	85	0.01	18.85
62	m	o-XYLENE	1.237	1.077	12.9	86	0.02	19.75
63	m	STYRENE	1.766	1.570	11.1	85	0.02	19.54
64	m	NONANE	1.702	1.342	21.2	67	0.02	20.19
65	m	BROMOFORM	1.387	1.463	-5.5	91	0.03	19.00
66	S	4-BROMOFLUOROBENZENE	0.555	0.478	13.9	51#	0.02	20.66
		----------	Amount	Calc.	%Drift	----------		
67	m	1,1,2,2-TETRACHLOROETHANE	10.000	11.888	-18.9	86	0.03	19.75
		----------	AvgRF	CCRF	%Dev	----------		
68	m	ISOPROPYLBENZENE	3.289	3.144	4.4	86	0.02	20.94
		----------	Amount	Calc.	%Drift	----------		
69	m	2-CHLOROTOLUENE	10.000	11.789	-17.9	82	0.02	21.96
70	m	4-ETHYLTOLUENE	10.000	12.041	-20.4	88	0.02	22.38
71	m	1,3,5-TRIMETHYLBENZENE	10.000	11.847	-18.5	86	0.02	22.57
72	m	TERT-BUTYLBENZENE	10.000	12.152	-21.5	89	0.02	23.50
73	m	1,2,4-TRIMETHYLBENZENE	10.000	11.865	-18.7	87	0.02	23.53
74	m	m-DICHLOROBENZENE	10.000	12.683	-26.8	93	0.02	23.87
75	m	BENZYL CHLORIDE	10.000	11.400	-14.0	85	0.02	23.84
76	m	p-DICHLOROBENZENE	10.000	12.591	-25.9	92	0.02	24.04
77	m	SEC-BUTYLBENZENE	10.000	12.071	-20.7	88	0.02	24.17
78	m	4-ISOPROPYLTOLUENE	10.000	12.052	-20.5	89	0.02	24.54
79	m	o-DICHLOROBENZENE	10.000	12.825	-28.2	94	0.01	24.80
80	m	n-BUTYLBENZENE	10.000	11.601	-16.0	86	0.01	25.41
81	m	HEXACHLOROBUTADIENE	10.000	11.920	-19.2	84	-0.01	28.89
82	m	1,2,4-TRICHLOROBENZENE	10.000	11.534	-15.3	87	0.00	28.05
83	m	NAPHTHALENE	10.000	10.288	-2.9	78	0.00	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26580.D J140117T.M Mon Jan 20 17:00:59 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1379-CC1373
Lab FileID: J26715.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140203\j26715.D Vial: 8
Acq On : 3 Feb 2014 3:52 pm Operator: AkinA
Sample : cc1373-10(m222) Inst : MSJ
Misc : ms31045,msj1379,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	78	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.489	4.022	-15.3	105	0.01	4.13
3	m	PROPYLENE	0.642	0.746	-16.2	105	0.01	4.06
4	m	FREON 114	3.156	3.570	-13.1	93	0.01	4.39
5	m	CHLOROMETHANE	0.757	0.860	-13.6	96	0.01	4.30
6	m	VINYL CHLORIDE	0.984	1.126	-14.4	95	0.01	4.52
7	m	1,3-BUTADIENE	0.565	0.712	-26.0	100	0.02	4.66
8	m	BROMOMETHANE	1.126	1.320	-17.2	95	0.01	4.92
9	m	CHLOROETHANE	0.428	0.512	-19.6	93	0.01	5.08
10	m	ACROLEIN	0.179	0.230	-28.5	103	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.034	3.596	-18.5	98	0.01	5.81
12	m	ISOPROPYL ALCOHOL	1.364	1.378	-1.0	101	0.03	5.92
13	m	ACETONE	0.878	1.068	-21.6	115	0.01	5.66
14	m	ACRYLONITRILE	0.406	0.520	-28.1	106	0.00	6.08
15	m	PENTANE	0.792	0.913	-15.3	98	0.01	6.13
16	m	1,1-DICHLOROETHYLENE	1.141	1.315	-15.2	95	0.01	6.41
17	m	CARBON DISULFIDE	2.578	3.027	-17.4	100	0.01	6.86
18	m	ETHANOL	0.231	0.243	-5.2	87	0.02	5.24
19	m	BROMOETHENE	1.128	1.315	-16.6	93	0.01	5.42
20	m	METHYLENE CHLORIDE	0.999	1.099	-10.0	97	0.00	6.52
21	m	3-CHLOROPROPENE	0.711	0.940	-32.2#	105	0.01	6.64
22	m	FREON 113	2.161	2.485	-15.0	94	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	0.951	1.152	-21.1	96	0.00	7.45
24	m	TERTIARY BUTYL ALCOHOL	1.519	1.666	-9.7	100	0.04	6.51
25	m	METHYL TERTIARY BUTYL ETH	2.085	2.536	-21.6	114	0.01	7.75
26	m	TETRAHYDROFURAN	0.670	0.778	-16.1	102	0.01	9.42
27	m	HEXANE	1.407	1.549	-10.1	93	0.00	8.77
28	m	VINYL ACETATE	1.728	1.980	-14.6	116	0.01	7.80
29	m	1,1-DICHLOROETHANE	1.702	2.154	-26.6	101	0.01	7.67
30	m	METHYL ETHYL KETONE	1.273	1.475	-15.9	115	0.01	8.11
31	m	cis-1,2-DICHLOROETHYLENE	1.136	1.358	-19.5	91	0.00	8.56
32	m	ETHYL ACETATE	1.299	1.597	-22.9	97	0.02	8.81
33	m	CHLOROFORM	2.281	2.762	-21.1	97	0.01	8.89
34	m	1,1,1-TRICHLOROETHANE	2.360	2.879	-22.0	97	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.727	3.112	-14.1	93	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.188	1.414	-19.0	91	0.01	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	67	0.01	11.06
38	m	BENZENE	0.581	0.693	-19.3	81	0.00	10.64
39	m	CYCLOHEXANE	0.295	0.333	-12.9	83	0.00	10.99
40	m	TRICHLOROETHYLENE	0.378	0.417	-10.3	84	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.223	0.227	-1.8	73	0.01	11.71

Continuing Calibration Summary

Job Number: MC27979 **Sample:** MSJ1379-CC1373
Account: HMANNJP H2M Associates, Inc **Lab FileID:** J26715.D
Project: Macbeth, 617 Little Britain, New Windsor, NY

42	m	BROMODICHLOROMETHANE	0.471	0.569	-20.8	84	0.01	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.095	1.180	-7.8	75	0.00	12.05
44	m	1,4-DIOXANE	0.081	0.072	11.1	66	0.03	12.13
45	m	METHYL METHACRYLATE	0.210	0.233	-11.0	84	0.01	12.29
46	m	HEPTANE	0.395	0.391	1.0	72	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.319	0.289	9.4	70	0.02	13.35
48	m	cis-1,3-DICHLOROPROPENE	0.328	0.367	-11.9	77	0.01	13.23
49	m	TOLUENE	0.471	0.522	-10.8	84	0.00	14.73
50	m	trans-1,3-DICHLOROPROPENE	0.314	0.368	-17.2	83	0.01	14.02
51	m	1,1,2-TRICHLOROETHANE	0.254	0.254	0.0	79	0.01	14.30
52	m	1,3-DICHLOROPROPANE	0.344	0.386	-12.2	85	0.01	14.77
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	61	0.00	17.72
		----------	Amount	Calc.	%Drift		----------	
54	m	2-HEXANONE	10.000	8.313	16.9	58	0.03	15.23
		----------	AvgRF	CCRF	%Dev		----------	
55	m	TETRACHLOROETHYLENE	1.010	1.147	-13.6	85	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.345	1.484	-10.3	81	0.01	15.42
57	m	1,2-DIBROMOETHANE	1.066	1.136	-6.6	82	0.01	15.84
58	m	1,1,1,2-TETRACHLOROETHANE	1.003	1.031	-2.8	80	0.02	17.78
59	m	CHLOROBENZENE	1.871	1.852	1.0	79	0.01	17.81
60	m	ETHYLBENZENE	2.861	3.213	-12.3	95	0.01	18.50
61	m	m,p-XYLENE	1.174	1.247	-6.2	90	0.00	18.85
62	m	o-XYLENE	1.237	1.395	-12.8	98	0.01	19.74
63	m	STYRENE	1.766	1.730	2.0	82	0.01	19.53
64	m	NONANE	1.702	1.628	4.3	71	0.00	20.17
65	m	BROMOFORM	1.387	1.513	-9.1	83	0.02	18.99
66	S	4-BROMOFLUOROBENZENE	0.555	0.624	-12.4	59#	0.01	20.66
		----------	Amount	Calc.	%Drift		----------	
67	m	1,1,2,2-TETRACHLOROETHANE	10.000	11.864	-18.6	76	0.02	19.74
		----------	AvgRF	CCRF	%Dev		----------	
68	m	ISOPROPYLBENZENE	3.289	4.121	-25.3	99	0.01	20.94
		----------	Amount	Calc.	%Drift		----------	
69	m	2-CHLOROTOLUENE	10.000	12.484	-24.8	77	0.01	21.95
70	m	4-ETHYLTOLUENE	10.000	12.811	-28.1	82	0.01	22.37
71	m	1,3,5-TRIMETHYLBENZENE	10.000	15.491	-54.9#	102	0.01	22.56
72	m	TERT-BUTYLBENZENE	10.000	12.430	-24.3	80	0.01	23.50
73	m	1,2,4-TRIMETHYLBENZENE	10.000	12.142	-21.4	79	0.01	23.51
74	m	m-DICHLOROBENZENE	10.000	12.725	-27.2	82	0.01	23.86
75	m	BENZYL CHLORIDE	10.000	11.120	-11.2	73	0.01	23.84
76	m	p-DICHLOROBENZENE	10.000	12.681	-26.8	82	0.01	24.03
77	m	SEC-BUTYLBENZENE	10.000	12.322	-23.2	79	0.00	24.15
78	m	4-ISOPROPYLTOLUENE	10.000	16.469	-64.7#	109	0.01	24.53
79	m	o-DICHLOROBENZENE	10.000	12.228	-22.3	78	0.00	24.79
80	m	n-BUTYLBENZENE	10.000	11.446	-14.5	75	0.00	25.41
81	m	HEXACHLOROBUTADIENE	10.000	12.269	-22.7	77	-0.02	28.88
82	m	1,2,4-TRICHLOROBENZENE	10.000	11.118	-11.2	74	-0.01	28.04
83	m	NAPHTHALENE	10.000	16.156	-61.6#	114	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26580.D J140117T.M Tue Feb 04 17:05:52 2014

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICC1381
Lab FileID: J26761.D

Response Factor Report MSJ

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Initial Calibration

Calibration Files
.2 =j26758.D .5 =j26757.D 2 =j26763.D 5 =j26762.D
10 =j26761.D 20 =j26760.D 40 =j26759.D

Compound	.2	.5	2	5	10	20	40	Avg	%RSD
1) I BROMOCHLOROMETHANE	ISTD								
2)m DICHLORODIFLUOROM	4.932	3.634	4.359	3.647	2.983	3.470	3.118	3.735	18.47
3)m PROPYLENE	1.213	0.843	0.918	0.770	0.665	0.749	0.719	0.840	21.95
4)m FREON 114	5.146	4.098	4.883	3.608	2.886	3.639	2.992	3.893	22.40
5)m CHLOROMETHANE	1.343	1.015	1.174	0.931	0.744	0.947	0.882	1.005	19.68
6)m VINYL CHLORIDE	1.665	1.301	1.562	1.227	0.987	1.251	1.133	1.304	18.14
7)m 1,3-BUTADIENE	1.073	0.856	0.950	0.707	0.592	0.758	0.674	0.801	20.98
8)m BROMOMETHANE	1.717	1.484	1.818	1.393	1.149	1.435	1.234	1.461	16.49
9)m CHLOROETHANE	0.714	0.587	0.684	0.546	0.471	0.590	0.510	0.586	15.06
10)m ACROLEIN		0.218	0.301	0.284	0.251	0.286	0.283	0.271	11.26
11)m TRICHLOROFLUOROME	4.492	3.748	4.372	3.289	2.729	3.470	2.850	3.564	19.30
12)m ISOPROPYL ALCOHOL		1.446	1.586	1.417	1.303	1.489	1.470	1.452	6.40
13)m ACETONE		1.036	1.068	0.965	0.880	0.980	0.967	0.983	6.64
14)m ACRYLONITRILE		0.368	0.643	0.591	0.530	0.609	0.597	0.556	17.84
15)m PENTANE	1.498	1.248	1.260	0.948	0.815	1.031	0.894	1.099	22.18
16)m 1,1-DICHLOROETHYL	2.044	1.578	1.843	1.416	1.213	1.482	1.240	1.545	19.81
17)m CARBON DISULFIDE	4.680	3.617	4.239	3.209	2.743	3.275	2.854	3.517	20.36
18)m ETHANOL		0.268	0.327	0.317	0.287	0.327	0.319	0.308	7.88
19)m BROMOETHENE	1.699	1.479	1.817	1.387	1.167	1.464	1.217	1.461	16.17
20)m METHYLENE CHLORID	1.935	1.349	1.416	1.174	1.024	1.226	1.078	1.315	23.34
21)m 3-CHLOROPROPENE	1.010	0.959	0.852	0.740	0.705	0.851	0.871	0.855	12.70
22)m FREON 113	3.116	2.543	2.846	2.407	2.153	2.580	2.123	2.538	14.10
23)m TRANS-1,2-DICHLOR	1.636	1.203	1.516	1.239	1.113	1.326	1.148	1.312	14.95
24)m TERTIARY BUTYL AL		1.694	1.845	1.644	1.540	1.700	1.693	1.686	5.85
25)m METHYL TERTIARY B	3.356	2.386	2.740	2.425	2.248	2.452	2.372	2.569	14.72
26)m TETRAHYDROFURAN	1.216	0.905	1.004	0.935	0.855	0.967	0.947	0.976	11.88
27)m HEXANE	2.394	1.709	1.997	1.677	1.508	1.827	1.588	1.814	16.61
28)m VINYL ACETATE		2.235	2.438	1.898	1.782	2.007	2.122	2.080	11.40
29)m 1,1-DICHLOROETHAN	2.389	1.862	2.131	1.895	1.816	2.144	2.077	2.045	9.88
30)m METHYL ETHYL KETO		1.482	1.485	1.378	1.359	1.549	1.580	1.472	6.04
31)m cis-1,2-DICHLOROE	1.679	1.211	1.614	1.455	1.312	1.574	1.420	1.467	11.47
32)m ETHYL ACETATE		1.625	1.581	2.500	2.352	1.766	1.607	1.905	21.58
33)m CHLOROFORM	3.034	2.362	2.781	2.626	2.434	2.840	2.639	2.674	8.74
34)m 1,1,1-TRICHLOROET	3.107	2.423	2.843	2.678	2.478	2.943	2.667	2.734	9.02
35)m CARBON TETRACHLOR	3.272	2.512	3.150	2.786	2.585	3.108	2.755	2.881	10.28
36)m 1,2-DICHLOROETHAN	1.340	1.041	1.378	1.247	1.124	1.443	1.459	1.290	12.39
37) I 1,4-DIFLUOROBENZENE	ISTD								
38)m BENZENE	0.913	0.614	0.735	0.672	0.605	0.746	0.705	0.713	14.57
39)m CYCLOHEXANE	0.436	0.335	0.372	0.329	0.297	0.357	0.295	0.346	14.09
40)m TRICHLOROETHYLENE	0.487	0.363	0.425	0.413	0.375	0.409	0.342	0.402	11.95
41)m 1,2-DICHLOROPROPA	0.304	0.207	0.262	0.241	0.213	0.252	0.244	0.246	13.19
42)m BROMODICHLOROMETH	0.491	0.361	0.468	0.456	0.433	0.529	0.478	0.459	11.43
43)m 2,2,4-TRIMETHYLPE	1.610	1.098	1.295	1.206	1.078	1.185	0.965	1.206	17.19
44)m 1,4-DIOXANE		0.093	0.069	0.079	0.078	0.096	0.078	0.082	12.63
45)m METHYL METHACRYLA		0.168	0.215	0.219	0.211	0.238	0.189	0.207	12.02

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICC1381
Lab FileID: J26761.D

46)m HEPTANE	0.545	0.395	0.439	0.396	0.357	0.403	0.358	0.413	15.60
47)m METHYL ISOBUTYL K		0.356	0.326	0.301	0.282	0.329	0.309	0.317	8.11
48)m cis-1,3-DICHLOROP	0.341	0.266	0.382	0.368	0.332	0.400	0.385	0.354	12.88
49)m TOLUENE	0.613	0.424	0.554	0.518	0.470	0.535	0.504	0.517	11.71
50)m trans-1,3-DICHLOR	0.298	0.244	0.372	0.363	0.326	0.385	0.368	0.336	15.07
51)m 1,1,2-TRICHLOROET	0.268	0.200	0.277	0.264	0.239	0.276	0.264	0.255	10.79
52)m 1,3-DICHLOROPROPA	0.402	0.304	0.416	0.395	0.358	0.405	0.380	0.380	10.09
53) I CHLOROBENZENE-D5	----------ISTD----------								
54)m 2-HEXANONE		0.708	0.710	0.554	0.632	0.550	0.619	0.629	11.20
55)m TETRACHLOROETHYLE	1.172	0.715	0.951	0.800	0.915	0.762	0.875	0.884	17.21
56)m DIBROMOCHLOROMETH	1.127	0.694	1.144	0.970	1.110	0.999	1.216	1.037	16.73
57)m 1,2-DIBROMOETHANE	1.072	0.711	1.111	0.912	1.003	0.854	1.042	0.958	14.72
58)m 1,1,1,2-TETRACHLO	0.967	0.570	0.893	0.737	0.832	0.716	0.873	0.798	16.71
59)m CHLOROBENZENE	1.999	1.218	1.821	1.478	1.635	1.382	1.669	1.600	16.57
60)m ETHYLBENZENE	3.568	2.052	2.967	2.387	2.643	2.102	2.499	2.603	20.32
61)m m,p-XYLENE	1.358	0.817	1.220	0.990	1.109	0.883	1.027	1.058	17.80
62)m o-XYLENE	1.424	0.844	1.257	1.015	1.142	0.910	1.070	1.095	18.31
63)m STYRENE	1.987	1.206	1.848	1.545	1.765	1.424	1.730	1.644	16.32
64)m NONANE	2.181	1.179	1.642	1.278	1.411	1.158	1.446	1.471	24.16
65)m BROMOFORM	0.964	0.639	1.201	1.036	1.235	1.077	1.327	1.069	21.21
66)S 4-BROMOFLUOROBENZ	0.499	0.760	0.604	0.775	0.561	0.767	0.512	0.640	19.42
67)m 1,1,2,2-TETRACHLO	2.675	1.577	2.253	1.807	2.053	1.611	1.912	1.984	19.48
68)m ISOPROPYLBENZENE	4.266	2.501	3.652	2.943	3.299	2.581	2.961	3.172	19.69
69)m 2-CHLOROTOLUENE	3.403	2.000	2.949	2.363	2.664	2.168	2.486	2.576	18.63
70)m 4-ETHYLTOLUENE	3.950	2.454	3.728	3.065	3.514	2.741	3.203	3.236	16.53
71)m 1,3,5-TRIMETHYLBE	4.219	2.454	3.560	2.871	3.266	2.553	2.915	3.120	19.81
72)m TERT-BUTYLBENZENE	4.492	2.580	3.691	3.019	3.452	2.673	3.032	3.277	20.30
73)m 1,2,4-TRIMETHYLBE	4.101	2.494	3.656	3.008	3.459	2.680	3.041	3.206	17.63
74)m m-DICHLOROBENZENE	2.457	1.579	2.426	2.037	2.408	1.938	2.281	2.161	15.08
75)m BENZYL CHLORIDE	2.391	1.859	2.840	2.464	3.060	2.457	2.805	2.554	15.40
76)m p-DICHLOROBENZENE	2.635	1.674	2.487	2.057	2.421	1.926	2.248	2.207	15.42
77)m SEC-BUTYLBENZENE	6.251	3.659	5.259	4.245	4.843	3.655	3.842	4.536	21.43
78)m 4-ISOPROPYLTOLUEN	5.178	3.103	4.413	3.642	4.221	3.188	3.285	3.861	19.99
79)m o-DICHLOROBENZENE	2.942	1.826	2.545	2.087	2.457	1.948	2.224	2.290	16.88
80)m n-BUTYLBENZENE	5.136	3.114	4.385	3.637	4.252	3.193	2.946	3.809	21.23
81)m HEXACHLOROBUTADIE	2.805	1.576	1.849	1.571	1.998	1.529		1.888	25.75
82)m 1,2,4-TRICHLOROBE	1.758	1.224	1.770	1.448	1.995	1.661		1.643	16.49
83)m NAPHTHALENE	4.237	3.550	4.485	3.503	5.031	3.885		4.115	14.32

(#) = Out of Range

J140211T.M Wed Feb 12 10:34:37 2014

6.9.5

6

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-CC1381
Lab FileID: J26766.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140212\j26766.D Vial: 2
Acq On : 12 Feb 2014 1:34 pm Operator: jaclynb
Sample : cc1381-10(m031) Inst : MSJ
Misc : ms31073,msj1381,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	95	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.735	3.464	7.3	110	0.01	4.14
3	m	PROPYLENE	0.840	0.762	9.3	109	0.00	4.07
4	m	FREON 114	3.893	3.156	18.9	104	0.00	4.40
5	m	CHLOROMETHANE	1.005	0.909	9.6	116	0.00	4.31
6	m	VINYL CHLORIDE	1.304	1.148	12.0	111	0.00	4.53
7	m	1,3-BUTADIENE	0.801	0.650	18.9	104	0.00	4.66
8	m	BROMOMETHANE	1.461	1.234	15.5	102	0.00	4.93
9	m	CHLOROETHANE	0.586	0.490	16.4	99	0.00	5.09
10	m	ACROLEIN	0.271	0.253	6.6	96	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.564	2.880	19.2	100	0.00	5.81
12	m	ISOPROPYL ALCOHOL	1.452	1.368	5.8	100	0.00	5.95
13	m	ACETONE	0.983	0.896	8.9	97	0.01	5.67
14	m	ACRYLONITRILE	0.556	0.535	3.8	96	0.00	6.09
15	m	PENTANE	1.099	0.893	18.7	104	0.00	6.14
16	m	1,1-DICHLOROETHYLENE	1.545	1.235	20.1	97	0.00	6.41
17	m	CARBON DISULFIDE	3.517	2.958	15.9	103	0.00	6.86
18	m	ETHANOL	0.308	0.289	6.2	96	0.02	5.26
19	m	BROMOETHENE	1.461	1.199	17.9	98	0.00	5.42
20	m	METHYLENE CHLORIDE	1.315	1.049	20.2	97	0.00	6.52
21	m	3-CHLOROPROPENE	0.855	0.740	13.5	100	0.00	6.64
22	m	FREON 113	2.538	2.082	18.0	92	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	1.312	1.099	16.2	94	0.00	7.46
24	m	TERTIARY BUTYL ALCOHOL	1.686	1.610	4.5	99	0.00	6.54
25	m	METHYL TERTIARY BUTYL ETH	2.569	2.234	13.0	94	0.00	7.75
26	m	TETRAHYDROFURAN	0.976	0.876	10.2	97	0.00	9.43
27	m	HEXANE	1.814	1.541	15.0	97	0.00	8.77
28	m	VINYL ACETATE	2.080	1.809	13.0	96	0.00	7.81
29	m	1,1-DICHLOROETHANE	2.045	1.900	7.1	99	0.00	7.67
30	m	METHYL ETHYL KETONE	1.472	1.412	4.1	99	0.00	8.12
31	m	cis-1,2-DICHLOROETHYLENE	1.467	1.287	12.3	93	0.00	8.56
32	m	ETHYL ACETATE	1.905	1.422	25.4	57#	0.00	8.82
33	m	CHLOROFORM	2.674	2.377	11.1	93	0.00	8.89
34	m	1,1,1-TRICHLOROETHANE	2.734	2.367	13.4	91	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.881	2.362	18.0	87	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.290	1.108	14.1	94	0.00	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	97	0.00	11.06
38	m	BENZENE	0.713	0.576	19.2	92	0.00	10.64
39	m	CYCLOHEXANE	0.346	0.281	18.8	92	0.00	10.99
40	m	TRICHLOROETHYLENE	0.402	0.352	12.4	91	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.246	0.203	17.5	92	0.00	11.71

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-CC1381
Lab FileID: J26766.D

42	m	BROMODICHLOROMETHANE	0.459	0.409	10.9	92	0.00	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.206	1.041	13.7	94	0.00	12.05
44	m	1,4-DIOXANE	0.082	0.074	9.8	92	0.02	12.14
45	m	METHYL METHACRYLATE	0.207	0.202	2.4	93	0.00	12.30
46	m	HEPTANE	0.413	0.356	13.8	97	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.317	0.287	9.5	99	0.01	13.37
48	m	cis-1,3-DICHLOROPROPENE	0.354	0.305	13.8	89	0.00	13.23
49	m	TOLUENE	0.517	0.425	17.8	88	0.00	14.74
50	m	trans-1,3-DICHLOROPROPENE	0.336	0.297	11.6	88	0.00	14.02
51	m	1,1,2-TRICHLOROETHANE	0.255	0.219	14.1	89	0.00	14.30
52	m	1,3-DICHLOROPROPANE	0.380	0.331	12.9	90	0.00	14.78
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	110	0.00	17.73
54	m	2-HEXANONE	0.629	0.557	11.4	97	0.02	15.25
55	m	TETRACHLOROETHYLENE	0.884	0.722	18.3	87	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.037	0.855	17.6	84	0.00	15.43
57	m	1,2-DIBROMOETHANE	0.958	0.793	17.2	87	-0.01	15.84
58	m	1,1,1,2-TETRACHLOROETHANE	0.798	0.639	19.9	84	0.00	17.78
59	m	CHLOROBENZENE	1.600	1.292	19.3	87	0.00	17.81
60	m	ETHYLBENZENE	2.603	2.101	19.3	87	0.00	18.50
61	m	m,p-XYLENE	1.058	0.865	18.2	86	0.00	18.85
62	m	o-XYLENE	1.095	0.900	17.8	86	0.00	19.74
63	m	STYRENE	1.644	1.372	16.5	85	0.00	19.54
64	m	NONANE	1.471	1.223	16.9	95	0.00	20.18
65	m	BROMOFORM	1.069	0.890	16.7	79	0.00	18.99
66	S	4-BROMOFLUOROBENZENE	0.640	0.727	-13.6	142#	0.00	20.66
67	m	1,1,2,2-TETRACHLOROETHANE	1.984	1.652	16.7	88	0.00	19.75
68	m	ISOPROPYLBENZENE	3.172	2.607	17.8	87	0.00	20.94
69	m	2-CHLOROTOLUENE	2.576	2.107	18.2	87	0.00	21.95
70	m	4-ETHYLTOLUENE	3.236	2.750	15.0	86	0.00	22.38
71	m	1,3,5-TRIMETHYLBENZENE	3.120	2.571	17.6	86	0.00	22.57
72	m	TERT-BUTYLBENZENE	3.277	2.715	17.1	86	0.00	23.50
73	m	1,2,4-TRIMETHYLBENZENE	3.206	2.737	14.6	87	0.00	23.52
74	m	m-DICHLOROBENZENE	2.161	1.819	15.8	83	0.00	23.87
75	m	BENZYL CHLORIDE	2.554	2.223	13.0	80	0.00	23.84
76	m	p-DICHLOROBENZENE	2.207	1.796	18.6	81	0.00	24.04
77	m	SEC-BUTYLBENZENE	4.536	3.823	15.7	87	0.00	24.16
78	m	4-ISOPROPYLTOLUENE	3.861	3.312	14.2	86	0.00	24.53
79	m	o-DICHLOROBENZENE	2.290	1.856	19.0	83	0.00	24.80
80	m	n-BUTYLBENZENE	3.809	3.343	12.2	86	0.00	25.41
81	m	HEXACHLOROBUTADIENE	1.888	1.367	27.6	75	-0.01	28.88
82	m	1,2,4-TRICHLOROBENZENE	1.643	1.319	19.7	73	0.00	28.05
83	m	NAPHTHALENE	4.115	3.428	16.7	75	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0

j26761.D J140211T.M Thu Feb 13 11:53:44 2014

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICV1381
Lab FileID: J26766A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140212\j26766a.D Vial: 2
Acq On : 12 Feb 2014 1:34 pm Operator: jaclynb
Sample : icv1381-10(m031) Inst : MSJ
Misc : ms31073,msj1381,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	95	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.735	3.464	7.3	110	0.01	4.14
3	m	PROPYLENE	0.840	0.762	9.3	109	0.00	4.07
4	m	FREON 114	3.893	3.156	18.9	104	0.00	4.40
5	m	CHLOROMETHANE	1.005	0.909	9.6	116	0.00	4.31
6	m	VINYL CHLORIDE	1.304	1.148	12.0	111	0.00	4.53
7	m	1,3-BUTADIENE	0.801	0.650	18.9	104	0.00	4.66
8	m	BROMOMETHANE	1.461	1.234	15.5	102	0.00	4.93
9	m	CHLOROETHANE	0.586	0.490	16.4	99	0.00	5.09
10	m	ACROLEIN	0.271	0.253	6.6	96	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.564	2.880	19.2	100	0.00	5.81
12	m	ISOPROPYL ALCOHOL	1.452	1.368	5.8	100	0.00	5.95
13	m	ACETONE	0.983	0.896	8.9	97	0.01	5.67
14	m	ACRYLONITRILE	0.556	0.535	3.8	96	0.00	6.09
15	m	PENTANE	1.099	0.893	18.7	104	0.00	6.14
16	m	1,1-DICHLOROETHYLENE	1.545	1.235	20.1	97	0.00	6.41
17	m	CARBON DISULFIDE	3.517	2.958	15.9	103	0.00	6.86
18	m	ETHANOL	0.308	0.289	6.2	96	0.02	5.26
19	m	BROMOETHENE	1.461	1.199	17.9	98	0.00	5.42
20	m	METHYLENE CHLORIDE	1.315	1.049	20.2	97	0.00	6.52
21	m	3-CHLOROPROPENE	0.855	0.740	13.5	100	0.00	6.64
22	m	FREON 113	2.538	2.082	18.0	92	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	1.312	1.099	16.2	94	0.00	7.46
24	m	TERTIARY BUTYL ALCOHOL	1.686	1.610	4.5	99	0.00	6.54
25	m	METHYL TERTIARY BUTYL ETH	2.569	2.234	13.0	94	0.00	7.75
26	m	TETRAHYDROFURAN	0.976	0.876	10.2	97	0.00	9.43
27	m	HEXANE	1.814	1.541	15.0	97	0.00	8.77
28	m	VINYL ACETATE	2.080	1.809	13.0	96	0.00	7.81
29	m	1,1-DICHLOROETHANE	2.045	1.900	7.1	99	0.00	7.67
30	m	METHYL ETHYL KETONE	1.472	1.412	4.1	99	0.00	8.12
31	m	cis-1,2-DICHLOROETHYLENE	1.467	1.287	12.3	93	0.00	8.56
32	m	ETHYL ACETATE	1.905	1.422	25.4	57#	0.00	8.82
33	m	CHLOROFORM	2.674	2.377	11.1	93	0.00	8.89
34	m	1,1,1-TRICHLOROETHANE	2.734	2.367	13.4	91	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.881	2.362	18.0	87	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.290	1.108	14.1	94	0.00	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	97	0.00	11.06
38	m	BENZENE	0.713	0.576	19.2	92	0.00	10.64
39	m	CYCLOHEXANE	0.346	0.281	18.8	92	0.00	10.99
40	m	TRICHLOROETHYLENE	0.402	0.352	12.4	91	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.246	0.203	17.5	92	0.00	11.71

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICV1381
Lab FileID: J26766A.D

42	m	BROMODICHLOROMETHANE	0.459	0.409	10.9	92	0.00	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.206	1.041	13.7	94	0.00	12.05
44	m	1,4-DIOXANE	0.082	0.074	9.8	92	0.02	12.14
45	m	METHYL METHACRYLATE	0.207	0.202	2.4	93	0.00	12.30
46	m	HEPTANE	0.413	0.356	13.8	97	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.317	0.287	9.5	99	0.01	13.37
48	m	cis-1,3-DICHLOROPROPENE	0.354	0.305	13.8	89	0.00	13.23
49	m	TOLUENE	0.517	0.425	17.8	88	0.00	14.74
50	m	trans-1,3-DICHLOROPROPENE	0.336	0.297	11.6	88	0.00	14.02
51	m	1,1,2-TRICHLOROETHANE	0.255	0.219	14.1	89	0.00	14.30
52	m	1,3-DICHLOROPROPANE	0.380	0.331	12.9	90	0.00	14.78
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	110	0.00	17.73
54	m	2-HEXANONE	0.629	0.557	11.4	97	0.02	15.25
55	m	TETRACHLOROETHYLENE	0.884	0.722	18.3	87	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.037	0.855	17.6	84	0.00	15.43
57	m	1,2-DIBROMOETHANE	0.958	0.793	17.2	87	-0.01	15.84
58	m	1,1,1,2-TETRACHLOROETHANE	0.798	0.639	19.9	84	0.00	17.78
59	m	CHLOROBENZENE	1.600	1.292	19.3	87	0.00	17.81
60	m	ETHYLBENZENE	2.603	2.101	19.3	87	0.00	18.50
61	m	m,p-XYLENE	1.058	0.865	18.2	86	0.00	18.85
62	m	o-XYLENE	1.095	0.900	17.8	86	0.00	19.74
63	m	STYRENE	1.644	1.372	16.5	85	0.00	19.54
64	m	NONANE	1.471	1.223	16.9	95	0.00	20.18
65	m	BROMOFORM	1.069	0.890	16.7	79	0.00	18.99
66	S	4-BROMOFLUOROBENZENE	0.640	0.727	-13.6	142#	0.00	20.66
67	m	1,1,2,2-TETRACHLOROETHANE	1.984	1.652	16.7	88	0.00	19.75
68	m	ISOPROPYLBENZENE	3.172	2.607	17.8	87	0.00	20.94
69	m	2-CHLOROTOLUENE	2.576	2.107	18.2	87	0.00	21.95
70	m	4-ETHYLTOLUENE	3.236	2.750	15.0	86	0.00	22.38
71	m	1,3,5-TRIMETHYLBENZENE	3.120	2.571	17.6	86	0.00	22.57
72	m	TERT-BUTYLBENZENE	3.277	2.715	17.1	86	0.00	23.50
73	m	1,2,4-TRIMETHYLBENZENE	3.206	2.737	14.6	87	0.00	23.52
74	m	m-DICHLOROBENZENE	2.161	1.819	15.8	83	0.00	23.87
75	m	BENZYL CHLORIDE	2.554	2.223	13.0	80	0.00	23.84
76	m	p-DICHLOROBENZENE	2.207	1.796	18.6	81	0.00	24.04
77	m	SEC-BUTYLBENZENE	4.536	3.823	15.7	87	0.00	24.16
78	m	4-ISOPROPYLTOLUENE	3.861	3.312	14.2	86	0.00	24.53
79	m	o-DICHLOROBENZENE	2.290	1.856	19.0	83	0.00	24.80
80	m	n-BUTYLBENZENE	3.809	3.343	12.2	86	0.00	25.41
81	m	HEXACHLOROBUTADIENE	1.888	1.367	27.6	75	-0.01	28.88
82	m	1,2,4-TRICHLOROBENZENE	1.643	1.319	19.7	73	0.00	28.05
83	m	NAPHTHALENE	4.115	3.428	16.7	75	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26761.D J140211T.M Thu Feb 13 11:58:07 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1382-CC1381
Lab FileID: J26779.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140214\j26779.D Vial: 4
Acq On : 14 Feb 2014 7:08 am Operator: jaclynb
Sample : cc1381-10(m031) Inst : MSJ
Misc : ms31124,msj1382,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	75	0.00	8.76
2	m	DICHLORODIFLUOROMETHANE	3.735	3.972	-6.3	100	0.02	4.15
3	m	PROPYLENE	0.840	1.001	-19.2	113	0.02	4.08
4	m	FREON 114	3.893	4.191	-7.7	109	0.02	4.41
5	m	CHLOROMETHANE	1.005	1.221	-21.5	123	0.01	4.32
6	m	VINYL CHLORIDE	1.304	1.507	-15.6	115	0.01	4.53
7	m	1,3-BUTADIENE	0.801	1.007	-25.7	128	0.01	4.67
8	m	BROMOMETHANE	1.461	1.487	-1.8	97	0.01	4.94
9	m	CHLOROETHANE	0.586	0.621	-6.0	99	0.01	5.09
10	m	ACROLEIN	0.271	0.305	-12.5	91	0.02	5.54
11	m	TRICHLOROFLUOROMETHANE	3.564	3.617	-1.5	100	0.01	5.82
12	m	ISOPROPYL ALCOHOL	1.452	1.651	-13.7	95	0.05	6.00
13	m	ACETONE	0.983	1.134	-15.4	97	0.02	5.68
14	m	ACRYLONITRILE	0.556	0.661	-18.9	94	0.01	6.10
15	m	PENTANE	1.099	1.272	-15.7	117	0.01	6.15
16	m	1,1-DICHLOROETHYLENE	1.545	1.370	11.3	85	0.01	6.43
17	m	CARBON DISULFIDE	3.517	3.643	-3.6	100	0.01	6.87
18	m	ETHANOL	0.308	0.352	-14.3	92	0.06	5.29
19	m	BROMOETHENE	1.461	1.395	4.5	90	0.01	5.43
20	m	METHYLENE CHLORIDE	1.315	1.171	11.0	86	0.01	6.53
21	m	3-CHLOROPROPENE	0.855	1.090	-27.5	116	0.00	6.65
22	m	FREON 113	2.538	2.153	15.2	75	0.01	6.78
23	m	TRANS-1,2-DICHLOROETHYLEN	1.312	1.179	10.1	80	0.01	7.47
24	m	TERTIARY BUTYL ALCOHOL	1.686	1.759	-4.3	86	0.05	6.59
25	m	METHYL TERTIARY BUTYL ETH	2.569	2.394	6.8	80	0.02	7.76
26	m	TETRAHYDROFURAN	0.976	1.079	-10.6	95	0.03	9.45
27	m	HEXANE	1.814	1.822	-0.4	91	0.01	8.79
28	m	VINYL ACETATE	2.080	2.261	-8.7	95	0.01	7.82
29	m	1,1-DICHLOROETHANE	2.045	2.363	-15.6	98	0.01	7.68
30	m	METHYL ETHYL KETONE	1.472	1.792	-21.7	99	0.02	8.15
31	m	cis-1,2-DICHLOROETHYLENE	1.467	1.327	9.5	76	0.00	8.57
32	m	ETHYL ACETATE	1.905	1.800	5.5	57#	0.02	8.84
33	m	CHLOROFORM	2.674	2.667	0.3	82	0.00	8.90
34	m	1,1,1-TRICHLOROETHANE	2.734	2.628	3.9	80	0.00	10.08
35	m	CARBON TETRACHLORIDE	2.881	2.586	10.2	75	0.00	10.84
36	m	1,2-DICHLOROETHANE	1.290	1.463	-13.4	98	0.00	9.77
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	72	0.00	11.07
38	m	BENZENE	0.713	0.709	0.6	84	0.00	10.65
39	m	CYCLOHEXANE	0.346	0.309	10.7	75	0.00	10.99
40	m	TRICHLOROETHYLENE	0.402	0.366	9.0	70	0.00	12.03
41	m	1,2-DICHLOROPROPANE	0.246	0.258	-4.9	87	0.00	11.72

Continuing Calibration Summary

Job Number: MC27979 **Sample:** MSJ1382-CC1381
Account: HMANNJP H2M Associates, Inc **Lab FileID:** J26779.D
Project: Macbeth, 617 Little Britain, New Windsor, NY

42	m	BROMODICHLOROMETHANE	0.459	0.502	-9.4	83	0.00	11.98
43	m	2,2,4-TRIMETHYLPENTANE	1.206	1.289	-6.9	86	0.00	12.05
44	m	1,4-DIOXANE	0.082	0.067	18.3	61	0.08	12.19
45	m	METHYL METHACRYLATE	0.207	0.253	-22.2	86	0.02	12.32
46	m	HEPTANE	0.413	0.475	-15.0	96	0.00	12.41
47	m	METHYL ISOBUTYL KETONE	0.317	0.341	-7.6	87	0.05	13.40
48	m	cis-1,3-DICHLOROPROPENE	0.354	0.366	-3.4	79	0.00	13.25
49	m	TOLUENE	0.517	0.465	10.1	71	0.00	14.75
50	m	trans-1,3-DICHLOROPROPENE	0.336	0.350	-4.2	77	0.00	14.04
51	m	1,1,2-TRICHLOROETHANE	0.255	0.250	2.0	75	0.01	14.32
52	m	1,3-DICHLOROPROPANE	0.380	0.381	-0.3	76	0.02	14.80
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	74	0.01	17.74
54	m	2-HEXANONE	0.629	0.697	-10.8	81	0.07	15.29
55	m	TETRACHLOROETHYLENE	0.884	0.764	13.6	62	0.00	16.61
56	m	DIBROMOCHLOROMETHANE	1.037	1.068	-3.0	71	0.01	15.45
57	m	1,2-DIBROMOETHANE	0.958	0.947	1.1	70	0.01	15.87
58	m	1,1,1,2-TETRACHLOROETHANE	0.798	0.757	5.1	67	0.01	17.80
59	m	CHLOROBENZENE	1.600	1.507	5.8	68	0.00	17.82
60	m	ETHYLBENZENE	2.603	2.431	6.6	68	0.01	18.51
61	m	m,p-XYLENE	1.058	0.967	8.6	64	0.00	18.86
62	m	o-XYLENE	1.095	1.037	5.3	67	0.01	19.76
63	m	STYRENE	1.644	1.529	7.0	64	0.01	19.55
64	m	NONANE	1.471	1.752	-19.1	92	0.01	20.19
65	m	BROMOFORM	1.069	1.017	4.9	61	0.02	19.02
66	S	4-BROMOFLUOROBENZENE	0.640	0.487	23.9	64	0.01	20.67
67	m	1,1,2,2-TETRACHLOROETHANE	1.984	1.982	0.1	71	0.02	19.77
68	m	ISOPROPYLBENZENE	3.172	3.015	4.9	67	0.01	20.95
69	m	2-CHLOROTOLUENE	2.576	2.510	2.6	70	0.01	21.97
70	m	4-ETHYLTOLUENE	3.236	3.126	3.4	66	0.01	22.39
71	m	1,3,5-TRIMETHYLBENZENE	3.120	2.955	5.3	67	0.01	22.58
72	m	TERT-BUTYLBENZENE	3.277	3.092	5.6	66	0.01	23.51
73	m	1,2,4-TRIMETHYLBENZENE	3.206	3.174	1.0	68	0.01	23.53
74	m	m-DICHLOROBENZENE	2.161	1.997	7.6	61	0.01	23.89
75	m	BENZYL CHLORIDE	2.554	2.543	0.4	61	0.02	23.86
76	m	p-DICHLOROBENZENE	2.207	1.960	11.2	60#	0.01	24.05
77	m	SEC-BUTYLBENZENE	4.536	4.472	1.4	68	0.01	24.17
78	m	4-ISOPROPYLTOLUENE	3.861	3.810	1.3	67	0.00	24.54
79	m	o-DICHLOROBENZENE	2.290	2.037	11.0	61	0.01	24.81
80	m	n-BUTYLBENZENE	3.809	3.951	-3.7	69	0.00	25.42
81	m	HEXACHLOROBUTADIENE	1.888	1.380	26.9	51#	0.00	28.89
82	m	1,2,4-TRICHLOROBENZENE	1.643	1.199	27.0	44#	0.00	28.05
83	m	NAPHTHALENE	4.115	3.138	23.7	46#	0.00	28.25

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26761.D J140211T.M Fri Feb 14 11:12:01 2014

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSQ1121-ICC1121
Lab FileID: Q25746.D

Response Factor Report MSQ

Method : C:\msdchem\1\METHODS\Q140213SIM.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Feb 14 08:30:41 2014
Response via : Initial Calibration

Calibration Files
5 =Q25748.D 2 =Q25747.D 0.5 =Q25746.D 0.25=Q25745.D
0.1 =Q25744.D 0.05 =Q25743.D

		Compound	5	2	0.5	0.25	0.1	0.05	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	m	VINYL CHLORIDE	1.477	1.460	1.582	1.870	1.591	1.712	1.616	9.56
3)	m	CHLOROETHANE	0.654	0.638	0.638	0.789	0.791	0.840	0.725	12.61
4)	m	1,1-DICHLOROETHYLEN	1.477	1.429	1.435	1.788	1.635	1.740	1.584	10.02
5)	m	FREON 113	2.438	2.372	2.355	2.901	3.036	3.287	2.731	14.52
6)	m	TRANS-1,2-DICHLOROE	0.950	0.911	0.874	1.063	1.194	1.225	1.036	14.35
7)	m	1,1-DICHLOROETHANE	1.702	1.576	1.527	1.791	1.995	2.026	1.769	11.80
8)	m	1,1,1-TRICHLOROETHA	2.084	1.995	1.960	2.350	2.463	2.562	2.235	11.46
9)	m	1,2-DICHLOROETHANE	1.155	0.967	0.907	1.082	1.416	1.401	1.155	18.61
10)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
11)	m	TRICHLOROETHYLENE	0.323	0.359	0.348	0.413	0.518	0.565	0.421	23.48
12)	I	CHLOROBENZENE-D5	----------ISTD----------							
13)	m	TETRACHLOROETHYLENE	0.762	0.776	0.783	0.934	1.321	1.444	1.003	30.20
		---- Linear regression ---- Coefficient = 0.9999								
		Response Ratio = 0.00389 + 0.75379 *A								
14)	S	4-BROMOFLUOROBENZEN	1.129	1.189	1.169	1.161	1.162	1.182	1.165	1.78

(#) = Out of Range

Q140213SIM.M Fri Feb 14 09:14:01 2014

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSQ1121-ICV1121
Lab FileID: Q25749A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\Q140213\Q25749a.D Vial: 5
Acq On : 13 Feb 2014 6:17 pm Operator: AkinA
Sample : ICV1121-0.5(M302) Inst : MSQ
Misc : ms31127,msq1121,,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\Q140213SIM.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Feb 14 08:30:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	100	0.00	8.87
2	m	VINYL CHLORIDE	1.616	1.643	-1.7	104	0.00	4.62
3	m	CHLOROETHANE	0.725	0.639	11.9	100	0.00	5.18
4	m	1,1-DICHLOROETHYLENE	1.584	1.460	7.8	101	0.00	6.53
5	m	FREON 113	2.731	2.310	15.4	98	0.00	6.88
6	m	TRANS-1,2-DICHLOROETHYLEN	1.036	0.898	13.3	102	0.00	7.57
7	m	1,1-DICHLOROETHANE	1.769	1.509	14.7	99	0.00	7.78
8	m	1,1,1-TRICHLOROETHANE	2.235	1.966	12.0	100	0.00	10.18
9	m	1,2-DICHLOROETHANE	1.155	0.927	19.7	102	0.00	9.86
10	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.00	11.16
11	m	TRICHLOROETHYLENE	0.421	0.350	16.9	99	0.00	12.12
12	I	CHLOROBENZENE-D5	1.000	1.000	0.0	99	0.00	17.81
		----------	Amount	Calc.	%Drift		----------	
13	m	TETRACHLOROETHYLENE	0.500	0.475	5.0	101	0.00	16.70
		----------	AvgRF	CCRF	%Dev		----------	
14	S	4-BROMOFLUOROBENZENE	1.165	1.189	-2.1	101	0.00	20.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Q25746.D Q140213SIM.M Fri Feb 14 09:47:50 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSQ1121-CC1121
Lab FileID: Q25749.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\Q140213\Q25749.D Vial: 5
Acq On : 13 Feb 2014 6:17 pm Operator: AkinA
Sample : CC1121-0.5(M302) Inst : MSQ
Misc : ms31127,msq1121,,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\Q140213SIM.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Feb 14 08:30:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	100	0.00	8.87
2	m	VINYL CHLORIDE	1.616	1.643	-1.7	104	0.00	4.62
3	m	CHLOROETHANE	0.725	0.639	11.9	100	0.00	5.18
4	m	1,1-DICHLOROETHYLENE	1.584	1.460	7.8	101	0.00	6.53
5	m	FREON 113	2.731	2.310	15.4	98	0.00	6.88
6	m	TRANS-1,2-DICHLOROETHYLEN	1.036	0.898	13.3	102	0.00	7.57
7	m	1,1-DICHLOROETHANE	1.769	1.509	14.7	99	0.00	7.78
8	m	1,1,1-TRICHLOROETHANE	2.235	1.966	12.0	100	0.00	10.18
9	m	1,2-DICHLOROETHANE	1.155	0.927	19.7	102	0.00	9.86
10	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.00	11.16
11	m	TRICHLOROETHYLENE	0.421	0.350	16.9	99	0.00	12.12
12	I	CHLOROBENZENE-D5	1.000	1.000	0.0	99	0.00	17.81
		----------	Amount	Calc.	%Drift		----------	
13	m	TETRACHLOROETHYLENE	0.500	0.475	5.0	101	0.00	16.70
		----------	AvgRF	CCRF	%Dev		----------	
14	S	4-BROMOFLUOROBENZENE	1.165	1.189	-2.1	101	0.00	20.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Q25746.D Q140213SIM.M Fri Feb 14 09:47:48 2014

MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT IDENTIFICATION

MANUFACTURER:	MEYER LABORATORY INC.
ADDRESS	2401 WEST JEFFERSON
	BLUE SPRINGS MO. 64015
	(816) 228-4433
TRADE NAME:	**AmeriClean Blue**

HEALTH	1	1 - SLIGHT
FLAMMABILITY	0	2 - MODERATE
REACTIVITY	0	3 - HIGH
PERSONAL PROTECTION	X	4 - EXTREME

EMERGENCY PHONE # (800) 424-9300

SECTION II: HAZARDOUS INGREDIENTS

CHEMICAL NAME /COMMON NAME	CAS NO.	TLV (SOURCE)
Tetrapotassium Pyrophosphate	7320-34-5	Not Established
Tetrasodium EDTA	64-02-8	Not Established
Nonylphenoxypolyethoxyethanol	9016-45-9	Not Established

SARA HAZARD: TITLE III, SECTION 313: Contains no Section 313 listed substances, no VOCs, no HAPs.
All components of this product are on the TSCA Inventory or are exempted from TSCA Inventory requirements.

SECTION III: PHYSICAL DATA

BOILING POINT (°F) 212°F SPECIFIC GRAVITY (H2O=1.0) 1.028 ± 0.005 pH (Conc./1%) 12.3/10.2
VAPOR PRESSURE: Not Determined VAPOR DENSITY Not Determined
SOLUBILITY IN WATER Complete
APPEARANCE AND ODOR: Clear, blue liquid with characteristic odor

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (T.C.C.) None to boiling FLAMMABLE LIMITS N/A
EXTINGUISHING MEDIA This product is not combustible. Water spray, dry chemical, CO2 or foam may be used where this product is stored.
SPECIAL FIREFIGHTING PROCEDURES: Do not enter confined fire-spaces without protective clothing and self-contained air supply.
UNUSUAL FIRE & EXPLOSION HAZARD None

SECTION V: REACTIVITY DATA

STABILITY Stable INCOMPATIBILITY Strong acids, Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Burning can produce Carbon Monoxide, Carbon Dioxide

SECTION VI: HEALTH HAZARD DATA

PRIMARY ROUTE OF EXPOSURE Eyes, Skin, Oral, Inhalation
SIGNS & SYMPTOMS OF OVEREXPOSURE (ACUTE) Direct contact with eyes may cause severe irritation and pain with marked redness and swelling of conjunctiva. May injure eye tissue if not removed promptly. Prolonged or repeated skin exposure may cause moderate irritation and reddening.
Ingestion may cause moderate to severe irritation of mouth, throat and stomach with nausea and vomiting. Inhalation may cause irritation to upper respiratory tract.
SIGNS & SYMPTOMS OF OVEREXPOSURE (CHRONIC) None known.
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: An existing dermatitis.
CARCINOGEN OR SUSPECTED CARCINOGEN INGREDIENTS: None

SECTION VII: EMERGENCY AND FIRST AID PROCEDURES

EYES: Flush with water for at least 15 minutes and call physician immediately.
SKIN: Wash affected areas with large amounts of soap and water. If irritation persists call a physician.
INGESTION: **DO NOT** induce vomiting. Dilute by drinking water. Call physician immediately.
INHALATION: Remove to fresh air. Start artificial respiration if necessary. Oxygen may be administered. Call physician.

SECTION VIII: PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not required under normal use conditions.
VENTILATION REQUIREMENTS: Normal EYE PROTECTION: Safety glasses with side shields PROTECTIVE GLOVES: Rubber/PVC
OTHER PROTECTIVE CLOTHING: Impervious clothing appropriate to minimize contact.

SECTION IX: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN: Flush small spills with water to sewer. Pick up large spills with absorbent material and place into containers for disposal.
WASTE DISPOSAL METHODS: Dispose of in accordance with appropriate Federal, State and Local regulations.

SECTION X: STORAGE AND HANDLING INFORMATION

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Handle all containers carefully. Wash thoroughly after handling.

DATE PREPARED 01/12/2012

MATERIAL SAFETY DATA SHEET

Specialty Adhesives, Inc.
3777 Air Park
Memphis, TN 38118

Date: 2012
Prepared by T. Myrick/ V. Lauria
Telephone number: (901) 794-8556

Emergency Medical Telephone Numbers: (901)-794-8556

PRODUCT IDENTIFICATION

Specialty Adhesives Name: 2999
Product Class: SYNTHETIC RESIN based product in water
DOT Proper Shipping name: none DOT regulated

WARNING STATEMENTS: No specific warnings under normal use.
PRECAUTIONARY MEASURES Avoid temperature extremes during storage

EMERGENCY AND FIRST AID PROCEDURES

First Aid:

If in eye:	Flush immediately with water for 15 minutes. Consult a physician if irritation persists.
If on skin:	No hazard under normal use.
If vapors inhaled:	No hazard under normal use.
In case of fire:	Product non-flammable in liquid state. Use water spray, foam, dry chemical or carbon dioxide on dried product.
Spill or Leak:	Contain and remove with inert absorbent. Keep spill out of sewers.

HAZARDOUS INGREDIENTS

Material Name / CAS #	Level in product	OSHA PEL	ACGIH TLV (1994)
None hazardous.			

This MSDS is prepared to comply with the OSHA Hazard Communication Standard (29 CFR 1919.1200). Unlisted ingredients are not "Hazardous" per this OSHA Standard and are considered to be trade secrets of Specialty Adhesives, INC.

NE -not established
NA -not applicable

OCCUPATIONAL CONTROL PROCEDURES

Eye Protection:	Wear safety glasses to reduce the potential for eye contact; chemical safety goggles are appropriate if splashing is likely. Have eye washes available where eye contact can occur.
Skin Protection:	No hazard under normal use.
Respiratory Protection:	not normally required.
Ventilation:	Standard industrial ventilation.

FIRE PROTECTION

Flash Point/Method:	Non-flammable
Appropriate Extinguishers:	Non-flammable in liquid state; use water spray, foam, dry chemical or carbon dioxide on dried product.
Special Fire Fighting Procedures:	Persons exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.
Unusual Fire and Explosion Hazards:	There is the possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers.

REACTIVITY DATA

Stability:	Stable
Incompatibility:	not established
Hazardous Decomposed Products:	Incomplete combustion can yield low molecular wt. hydrocarbons, carbon monoxide
Hazardous Polymerization:	will not occur.

EFFECTS OF OVEREXPOSURE

Eyes:	Direct eye contact with the product may cause irritation.
Skin:	Prolonged or repeated contact with liquid product may cause irritations.
Inhalation:	No hazard under normal use.
Chronic:	No hazard under normal use.

Existing Health Conditions Affected by exposure:
No known effects on other illnesses.

NA - not applicable
NE- not established

PHYSICAL DATA

Physical State:	Liquid	HMIS RATING		
Weight per Gallon:	8.8 – 9.1	HEALTH	-	1
PH:	4.0- 5.5	FLAMABILITY	-	0
Boiling Range:	> 200 F	REACTIVITY	-	0
Soluble in Water:	Miscible			

VOC Content : .0007% HAPS Content: .0006%

SPILL, LEAK & DISPOSAL INFORMATION

Spill or Leak Procedures: Dike if necessary, contain spill with inert absorbent and transfer to containers for disposal. Keep spilled product out of sewers, watersheds or water systems.

Waste Disposal: To the best of our knowledge, this product does not meet the definition of hazardous waste under EPA Regulations 40 CFR 261. It does not contain any added raw materials with known levels of TCLP constituents as identified in section 261.24 of the above mentioned regulation. State or local regulations may apply if they are different from federal regulations. Check with local officials before disposal. Solidify and dispose of in an approved landfill.

STORAGE

Protect from freezing - product stability may be affected.

ADDITIONAL INFORMATION:

In storage, monomer vapors will migrate from the emulsion and establish an equilibrium between the headspace in the storage container and the liquid emulsion. Levels in excess of acceptable exposures can accumulate in non-vented headspaces above the emulsion. All procedures appropriate for a confined space entry should be completed prior to performing any work in a bulk storage tank.

REGULATORY INFORMATION

TSCA

All components of this product are registered under the regulations of the Toxic Substances Control Act.

SARA TITLE III

Section 313: This product contains the following toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

NONE CONTAINED

This information must be included in all MSDS that are copied and distributed for this material.

NA- not applicable
NE- not established

Sealed Air Corporation
Engineered Products Division
10 Old Sherman Tnpk., Danbury, CT 06810
(203) 791-3500 Fax: (203) 791-3618

MATERIAL SAFETY DATA SHEET

EMERGENCY NUMBERS:

Sealed Air Corporation: (203) 791-3500 *For emergency and general information*
8:30am-5:00pm, (Eastern Time), Monday-Friday

CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident*
24 hours

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name:	INSTAPAK® QUICK™ COMPONENT "A"
Chemical Name:	Polymethylene Polyphenylisocyanate
Trade Name:	Polymeric MDI
Chemical Family:	Aromatic Isocyanates
Chemical Formula:	Not Available

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components:	CAS No.	Wt.%	OSHA-PEL	ACGIH-TLV
Polymeric Diphenylmethane Diisocyanate (polymeric MDI or PMDI)	9016-87-9	100	Not Listed	Not Listed
Contains:				
4,4'-Diphenylmethane diisocyanate (4,4'-MDI; approx. 45%)	101-68-8		0.02 ppm (Ceiling)	0.005 ppm (TWA)
Other MDI isomers and oligomers	Not Listed		Not Listed	Not Listed

This product is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Health Hazards: Irritating to eyes, respiratory system and skin. Repeated inhalation of aerosols at levels above the occupational exposure limit could cause respiratory sensitization and risk of serious damage to respiratory system. The onset of the respiratory symptoms may be delayed for several hours after exposure. A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. Sensitized persons should not be exposed to any mixture containing unreacted MDI.

Physical Hazards: Reacts slowly with water to produce carbon dioxide that may rupture closed containers. This reaction accelerates at higher temperatures.

Appearance: Dark brown liquid.

Odor: Slightly aromatic (musty).

Note: Read the entire MSDS for a more thorough evaluation of the hazard information on this product.

SECTION 4 - FIRST AID MEASURES

Inhalation: Remove patient from further exposure and obtain medical attention. Treatment is symptomatic for primary irritation or difficulty in breathing. If breathing is labored, qualified personnel should administer oxygen. Apply artificial respiration if breathing has ceased or shows signs of failing. Asthmatic-like symptoms, if manifested, may develop immediately, or be delayed for up to several hours.

Skin Contact: Remove contaminated clothing. Immediately wash affected area thoroughly with soap and water. Some organic materials such as corn oil or propylene glycol are effective in decontaminating MDI from the skin when applied immediately. Contaminated clothing should be thoroughly cleaned before reuse. If irritation, redness, or a burning sensation develops and persists, obtain medical advice.

Eye Contact: Immediately flush eyes with copious amounts of water for a minimum of 15 minutes, holding lids open with fingers. If irritation persists, repeat flushing. Refer individual to a physician for immediate follow-up.

Ingestion: Do NOT induce vomiting. Provided the patient is conscious, wash mouth out with water then give 1 or 2 glasses of water to drink. Refer person to medical personnel for immediate attention.

Note to Physicians: Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point: 390°F (199°C) [Pensky-Martens Closed Cup]
Flammable Limits (lower): Not available
Flammable Limits (upper): Not available

Extinguishing Media: Water, carbon dioxide (CO_2), dry chemical, or appropriate foam. If water is used, large quantities are required. Reaction between water and hot isocyanate may be vigorous. Contain run-off water with temporary barriers.

Fire Fighting Procedures: As appropriate for surrounding materials/equipment.

Fire and Explosion Hazards: Containers may burst under intense heat. Due to reaction with water, a hazardous build-up of pressure could result if contaminated containers are re-sealed.

Fire Fighting Protective Equipment: Firefighters must wear self-contained breathing apparatus and full protective clothing (Bunker gear).

NFPA Hazard Code:

Health:	2
Flammability:	1
Reactivity:	1
Special Hazard:	None

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Evacuate area surrounding the spill and prevent further spillage, leakage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. If the potential for airborne concentrations of MDI above the PEL exists, then respiratory protection should be worn. Contain and cover spill with loose absorbent (earth, sand, sawdust or other absorbent material), or absorbent pillows, pads or socks. Collect absorbed material in open containers or plastic bags, and treat with deactivating solution (90% water, 8% concentrated ammonia, 2% detergent). Allow to stand uncovered for 48-72 hours to permit carbon dioxide to escape and solidification to occur. Wash spill area with deactivating solution and let stand for 30 minutes or longer. Dispose of absorbed and neutralized material properly.

SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Min. 50°F (10°C) Max. 100°F (38°C)

Average Shelf Life: 12 months (when stored in original, unopened, sealed containers).

Special Sensitivity: Reacts with moisture to produce carbon dioxide gas.

Precautions to be Taken in Handling and Storage: Do not store product containers uncovered outdoors. Do not reseal containers unless it is certain that no moisture contamination has occurred. Do not breathe vapors or allow skin contact.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:
OSHA-PEL: 4,4'-Diphenylmethane diisocyanate; Ceiling = 0.02 ppm
ACGIH-TLV: 4,4'-Diphenylmethane diisocyanate; TWA = 0.005 ppm

HMIS Hazard Code:

Health	2*
Flammability	1
Reactivity	1
PPE	B (**P**ersonal **P**rotective **E**quipment) (B= safety glasses and gloves)

*indicates a chronic hazard

Exposure Guidelines: Medical supervision of employees who come into contact with respiratory sensitizers is recommended. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.

Respiratory Protection: Due to the low vapor pressure of this material, the PEL is not likely to be exceeded under normal conditions. If the material is heated or spilled in a confined area, respiratory protection should be worn. An approved air purifying respirator equipped with an organic vapor cartridge and a HEPA (P100) particulate filter may be used when an appropriate cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 CFR 1910.134). Where concentrations exceed the level for which an air-purifying respirator is effective, use a positive pressure, supplied air respirator.

Eye Protection: Safety glasses with side shields or goggles.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

Protective Clothing: Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

Ventilation: Use local exhaust ventilation if necessary to maintain levels below the PEL. For guidance on engineering controls refer to the ACGIH publication "Industrial Ventilation."

Other: Eyewash station, safety shower and deactivating solution should be available. Refer to the "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin before handling Instapak® chemicals.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Dark brown
Odor: Slightly aromatic (musty)
Vapor Density (Air = 1): 8.5
Molecular Weight: Approx. 350
Melting Point: Not established.

Boiling Point: 406°F (208°C)
Vapor Pressure: $< 10^{-5}$ mm Hg at 25°C (for Polymeric MDI)
Specific Gravity: 1.24 at 25°C
Bulk Density: 10.3 lbs/gal
% Volatile by Volume: Nil
Solubility in Water: Not soluble. Reacts slowly to liberate CO_2 gas.

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under normal conditions. Avoid temperatures above 110°F (43°C) or below 40°F (4°C).

Polymerization: May occur at elevated temperatures in the presence of moisture, alkalies, tertiary amines and metal compounds.

Conditions to Avoid: Contact with moisture and other materials that contain active hydrogen.

Incompatible Materials: Water, amines, strong bases and alcohols. The reaction with water is slow at temperatures less than 120°F (49°C) but is accelerated at higher temperatures.

Hazardous Decomposition Products: Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

SECTION 11 - TOXICOLOGICAL INFORMATION

Polymeric MDI:
LD_{50} Oral: >10000 mg/kg (rat)
LD_{50} Dermal: >5000 mg/kg (rabbit)
LC_{50} Inhalation: 370 - 490 mg/m^3/4 hours (rat) for an aerosol of polymeric MDI

Primary Route(s) of Exposure: Skin contact from liquid. Inhalation. However, due to the low vapor pressure, overexposure is not expected under normal conditions unless material is heated or used in a poorly ventilated area.

Inhalation: This product is a respiratory irritant and potential respiratory sensitizer. Inhalation of vapor or aerosol at levels above the occupational exposure limit can cause respiratory sensitization. Symptoms may include irritation to the eyes, nose, throat, and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing. The onset of respiratory symptoms may be delayed for several hours after exposure.

SECTION 11 - TOXICOLOGICAL INFORMATION (continued)

A hyper-reactive response to even minimal concentrations of MDI may develop in sensitized persons. Sensitized persons should be removed from any further exposure. Persons with asthma-type conditions or other chronic respiratory diseases should be excluded from working with MDI. Like many other non-specific asthmatic responses, there are reports that a sensitized individual can experience symptoms upon exposure to dust, cold air or other irritants. In a single evaluation of 5 men occupationally exposed to MDI and hydrocarbon solvent vapors under conditions where adequate ventilation or other safety precautions were not used, neuropsychologic findings were attributed to MDI.

Skin Contact: May cause irritation or rash. Can cause skin discoloration. Repeated and/or prolonged contact may result in skin sensitization. Individuals who have skin sensitization can develop symptoms (e.g., reddening swelling, rash) from contact with liquid or vapors. There is limited evidence from laboratory tests that skin contact may play a role in respiratory sensitization. This data reinforces the need to prevent direct skin contact and the importance of protective gloves.

Eye Contact: Liquid can cause eye irritation, tearing, reddening and swelling. Permanent corneal injury is unlikely. Exposure to MDI vapors in excess of 0.02 ppm may cause irritation.

Ingestion: Ingestion is unlikely. Based on the acute oral LD_{50}, this product is considered practically non-toxic by ingestion. Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract.

Chronic Effects: A study was conducted where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol either at concentrations of 0, 0.2, 1, or 6 mg/m^3 (which corresponds to MDI levels equal to the OSHA-PEL, 5 times the OSHA-PEL and 30 times the OSHA-PEL). No adverse effects were observed at 0.2 mg/m^3 concentrations. At the 1 mg/m^3 concentration, minimal nasal and lung irritant effects were seen. Only at the top concentration (6 mg/m^3) was there an increased incidence of benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). MDI administration to rats in this study did not change the distribution and incidence of tumors from those seen in control animals. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur.

Carcinogenicity: The ingredients of this product (>0.1%) are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA and not listed as carcinogens by NTP.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. The dose that produced this effect (1.2 ppm) is 60 times higher than the OSHA-PEL. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations well in excess of the defined occupational exposure limits.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate and Distribution: It is unlikely that significant environmental exposure in the air or water will arise, based on consideration of the production and use of the substance.

Sealed Air Corporation
Engineered Products Division
10 Old Sherman Tnpk., Danbury, CT 06810
(203) 791-3500 Fax: (203) 791-3618

SECTION 12 - ECOLOGICAL INFORMATION (continued)

Persistence and Degradation: Immiscible with water, but will react with water to produce carbon dioxide, and inert and non-biodegradable solids.

Aquatic Toxicity:

LC_{50}:	>1000 mg/1 (Zebra fish) At the highest level of 1000 mg/l, there were no deaths.
EC_{50} (24 hour):	>1000 mg/1 (Daphnea magna)
EC_{50}:	>100 mg/1 (E. Coli)

SECTION 13 - DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. This material is not a hazardous waste under RCRA 40 CFR 261 when disposed of in its purchased form. Small quantities should be treated with deactivation solution outlined in Section 6. Refer to the "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin for additional information concerning disposal of wastes and empty containers. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.

SECTION 14 - TRANSPORT INFORMATION

DOT: Single containers less than 5,000 pounds are not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

Reportable Quantity (RQ): 5,000 lbs. for Methylene diphenyl diisocyanate (4,4'-MDI), CAS #101-68-8 (≈ 45% of product).

SECTION 15 - REGULATORY INFORMATION

TSCA Status: All ingredients are listed or are not required to be listed.

CERCLA Status: Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

SARA 302 Extremely Hazardous Substances: None

SARA 311/312 Hazard Categories: Immediate (acute) Health Hazard
Delayed (chronic) Health Hazard

SARA 313 Listed Ingredients: This product contains the following chemicals subject to reporting requirements: 100% Diisocyanate compounds (Category Code N120).

SECTION 16 - OTHER INFORMATION

Other Regulations/Legislation which apply to this product: Massachusetts Right-to-Know, New Jersey Right-to-Know, Pennsylvania Right-to-Know [Methylene bisphenyl isocyanate (4,4'-MDI), CAS#101-68-8].

Section(s) Revised: Section 8 – Exposure Controls/ Personal Protection, Section 11 - Toxicological Information, Section 16 – Other Information

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Sealed Air
Protective Packaging
10 Old Sherman Turnpike
Danbury, CT 06810
203-791-3500 Fax: 203-791-3618

MATERIAL SAFETY DATA SHEET

EMERGENCY NUMBERS:

Sealed Air Corporation: (203) 791-3500 *For emergency and general information*
8:30am-5:00pm, (Eastern Time), Monday-Friday

CHEMTREC: (800) 424-9300 *For Chemical Emergency - spill, leak, fire, exposure or accident*
24 hours

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: INSTAFLEX™ COMPONENT "B"
Chemical Name: Polyol
Product Description: Polyether Polyol Resin Mixture

Manufacturer: Sealed Air Corporation (US)
10 Old Sherman Turnpike
Danbury, CT 06810

SECTION 2 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Health Hazards: Irritating to eyes and skin. Inhalation may result in irritation.

Physical Hazards: No immediate hazard.

Medical Conditions Aggravated by Exposure: None known.

Appearance: Liquid can be a straw to amber color and have a clear to cloudy appearance. A slight amine odor may be present.

Note: Read the entire MSDS for a more thorough evaluation of the hazard information on this product.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components	CAS No.	Wt. %	OSHA-PEL	ACGIH-TLV
Amine Catalyst	Proprietary	≈ 2.5	Not Established	Not Established

This product is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 4 - FIRST AID MEASURES

Eye Contact: Flush with copious amounts of water for at least 15 minutes, holding lids open with fingers.

Skin Contact: Wash area thoroughly with soap and water. Launder contaminated clothing before reuse.

Inhalation: Remove patient from further exposure and obtain medical attention. Administer oxygen if necessary.

Ingestion: Drink water to dilute and obtain medical attention.

Note to Physicians: Symptomatic and supportive care as indicated.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Product as supplied does not have a flash point. [Pensky-Martens Closed Cup]
Flammable limits (lower): Not applicable.
Flammable limits (upper): Not applicable.

Extinguishing Media: Carbon dioxide (CO_2), chemical foam, dry chemical, water spray.

Fire Fighting Procedures: Firefighters should wear NFPA compliant protective equipment including a self-contained breathing apparatus, helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse.

Fire and Explosion Hazards: Chemical containers may burst under intense heat or pressure.

NFPA Hazard Code:

Health	2
Flammability	1
Reactivity	0
Special Hazard	None

0=Minimal 1=Slight 2=Moderate 3=High 4=Extreme

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Evacuate area surrounding the spill and prevent further leakage, spillage or entry into drains. Eye and skin protection should be worn during spill cleanup and ventilation maintained. Contain and cover spill with loose absorbent (earth, sand, sawdust or other absorbent material) or absorbent pillows, pads or socks. Collect absorbed material in open containers or plastic bags. Dispose of spilled material properly.

SECTION 7 - HANDLING AND STORAGE

Storage Temperature: Min. 35°F (2°C) Max. 110°F (43°C)

Average Shelf Life: 12 months (when stored in original, unopened, sealed containers).

Special Sensitivity: None.

Precautions to be Taken in Handling and Storage: None.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: OSHA-PEL: Not Established
ACGIH-TLV: Not Established

HMIS Hazard Code:

Health	2
Flammability	0
Reactivity	0
PPE	B

(Personal Protective Equipment) (B= safety glasses and gloves)

0=Minimal 1=Slight 2=Moderate 3=High 4=Severe

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION (continued)

Respiratory Protection: The use of respiratory protection should not be needed under normal use and handling conditions. If protection is chosen, an air purifying respirator, equipped with organic vapor cartridges, is appropriate.

Eye Protection: Safety glasses with side shields or goggles.

Protective Clothing: Chemical resistant butyl rubber, nitrile rubber, neoprene, or other suitable protective gloves.

Ventilation: Good general ventilation. For guidance on engineering controls refer to the ACGIH publication "Industrial Ventilation."

Other: Eyewash station and safety shower should be available. Refer to the "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin before handling Instapak® chemicals.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Light straw or amber
Odor: Slight amine or no odor
Vapor Density (Air = 1): > 1
Molecular Weight: Not applicable
Melting Point: -20°F (-29°C)

Boiling Point: >201°F (94°C)
Vapor Pressure: Not established (low)
Specific Gravity: 1.03 at 25°C
Bulk Density: 8.6 lbs/gal
% Volatile by Volume: Nil
Solubility in Water:

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable.

Polymerization: Will not occur.

Conditions to Avoid: None.

Incompatible Materials: Contact with isocyanates, unless mixed at the proper ratio, should not occur.

Hazardous Decomposition Products: By fire or extreme heat, oxides of carbon and nitrogen.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity Data:

LD_{50} Oral:	Not Established
LD_{50} Dermal:	Not Established
LC_{50} Inhalation:	Not Established

Primary Route(s) of Exposure: Skin contact from liquid. Inhalation. However, overexposure is not expected under normal conditions.

SECTION 11 - TOXICOLOGICAL INFORMATION (continued)

Inhalation: Vapors may be irritating if hot.

Skin Contact: Repeated contact may be irritating.

Eye Contact: Can cause eye irritation. Permanent corneal injury is unlikely.

Ingestion: Ingestion is unlikely. Large quantities could cause irritation of mouth and stomach.

Chronic Effects: No applicable data.

Carcinogenicity: The ingredients of this product (>0.1%) are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Mutagenicity: No applicable data.

Reproductive Effects: No applicable data.

Teratogenicity and Fetotoxicity: No applicable data.

SECTION 12 - ECOLOGICAL INFORMATION

No applicable data for this section.

SECTION 13 - DISPOSAL CONSIDERATIONS

Incinerate or dispose of in accordance with existing federal, state and local environmental control regulations. This material is not a hazardous waste under RCRA 40 CFR 261 when discarded in its purchased form. Also see the "Recommendations for the Safe Use and Handling of Instapak® Foam-in-Place Chemicals" bulletin for additional information concerning disposal of wastes and empty containers. Chemical waste, regardless of quantity, should never be poured into drains, sewers or waterways.

SECTION 14 - TRANSPORT INFORMATION

DOT: Not regulated.

IMO: Not regulated.

IATA/ICAO Class: Not regulated.

Reportable Quantity (RQ): Not applicable.

SECTION 15 - REGULATORY INFORMATION

TSCA Status: All ingredients are listed or are not required to be listed.

CERCLA Status: Discarded product is not a hazardous waste under RCRA, 40 CFR 261, when disposed of in its purchased form.

SARA 302 Extremely Hazardous Substances: None.

SARA 311/312 Hazard Categories: Immediate (acute) Health Hazard.

SARA 313 Listed Ingredient(s): None.

SECTION 16 - OTHER INFORMATION

Other Regulations/Legislation which apply to this product: Substances used to manufacture this product do not require listing under Massachusetts, New Jersey or Pennsylvania Right-to-Know regulations.

To the best of our knowledge, this product does not contain any of the listed chemicals which the state of California has found to cause cancer, birth defects or other reproductive harm.

Section(s) Revised: Product Description revised in Section 1.

MATERIAL SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY Approved 5/29/01

1. Chemical Product and Company Identification

DESCRIPTION: **HYDRO-8 GCMI 90 BLACK**
PRODUCT CODE: 7EBW42519.
PRODUCT TYPE: WATER BASED LIQUID INK
APPLICATION: PRINTING INK

Manufacturer/Supplier Information

MSDS Prepared by:
Color Resolutions International LLC
630 Glendale-Milford Road
Cincinnati, OH 45215

Emergency Phone Number
Chemtrec
1-800-424-9300 800-346-8570

For additional health, safety or regulatory information, call ~~513-782-6300.~~

2. Composition, Information on Ingredients

No hazardous ingredients known to Color Resolutions International LLC.

3. Hazards Identification

3.1 Emergency Overview

Flash Point Greater than 200 F

Not a significant fire hazard.

HMIS Rating

HEALTH = 1 (slight)
FLAMMABILITY = 0 (minimal)
REACTIVITY = 0 (minimal)

3.2 Potential Health Effects

Immediate Hazards

INGESTION: Not expected to be harmful under normal conditions of use.

INHALATION: Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.

52143 5454

Immediate Hazards

SKIN: May cause irritation on prolonged or repeated contact.

EYES: May cause irritation on prolonged or repeated contact.

Delayed Hazards

None of the components present in this product at concentrations equal to or greater than 0.1% have been listed by NTP, classified by IARC, nor regulated by OSHA as a carcinogen.

4. First Aid Measures

INGESTION: If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

INHALATION: Remove to fresh air.

SKIN: In case of irritation, flush with water.

EYES: Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. Fire Fighting Measures

Flammable Limits %Vol. Air	Not determined
Flash Point	Greater than 200 F

Will not burn unless water has evaporated. Dried material may burn.
In case of fire, use water spray, dry chemical, "alcohol" foam or CO2. Use water to keep fire-exposed containers cool.

6. Accidental Release Measures

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Color Resolutions International LLC. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

7. Handling and Storage

7.1 Handling

Handle in accordance with good industrial hygiene and safety practices.
INHALATION: Avoid prolonged or repeated breathing of vapor.
SKIN: Avoid prolonged or repeated contact with skin and clothing.

7.1 Handling

EYES: Avoid prolonged or repeated contact with eyes.

7.2 Storage

Keep container closed.
Store in a cool, dry place.
Keep away from heat, sparks, flame and other ignition sources.

8. Exposure Controls/Personal Protection

8.1 Exposure Controls

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

8.2 Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Use goggles if contact is likely. Wear impervious gloves as required to prevent skin contact.

8.3 Exposure Guidelines

None established

9. Physical and Chemical Properties

Boiling Range - Degrees F	173
Specific Gravity	1.08
Vapor Pressure @ 20C	30 mm Hg
Flammable Limits %Vol. Air	Not determined
Appearance / Odor	Black liquid/Mild odor
Solubility In Water	Yes
Vapor Density	2.0
Ev. Rate (butyl acetate = 1)	Less than 1
pH	8.2 - 8.4
Flash Point	Greater than 200 F

10. Stability and Reactivity

Normally stable as defined in NFPA 704-12(4-3.1).

11. Toxicological Information

See Section 3 Hazards Identification information.

12. Ecological Information

Not determined.

13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. Transport Information

14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

Non-Regulated.

14.2 Canadian Transportation of Dangerous Goods (TDG)

Not determined.

15. Regulatory Information (Selected Regulations)

15.1 U.S. Federal Regulations

OSHA Hazard Communication Standard 29CFR1910.1200

This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III: Section 311/312

Does not meet any hazard category

SARA Title III Section 313 and 40 CFR Part 372

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

SARA Title III Section 313 and 40 CFR Part 372

None required per SARA TITLE III SECTION 313.

TSCA Section 8(b) Inventory

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by Color Resolutions International LLC.

15.2 Canadian Regulations

Workplace Hazardous Materials Information System (WHMIS)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

Not a controlled product

Canadian Environmental Protection Act (CEPA)

This product contains one or more chemical substances on the Non-Domestic Substances List (NDSL).
This product contains one or more chemical substances not included on either the Domestic Substances List (DSL) or the Non-Domestic Substances List (NDSL).

National Pollutant Release Inventory (NPRI)

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.

None required.

16. Other Information

User's Responsibility

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

CUR ISSUE 28-FEB-01
PREVIOUS ISSUE: 22-DEC-00

4

Material Safety Data Sheet

Print Date: 02/20/2004 Revision: 3 Revision Date: 02/20/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Code:	36EWB8995
Description:	OPTIMAL ORANGE
Application:	Flexographic Printing
Product Type:	Water Base Dispersion
Supplier:	Color Resolutions International LLC 575 Quality Boulevard Fairfield, OH 45014-2294

Emergency Telephone Number: CHEMTREC: 1-800-424-9300
Non-Emergency Phone Number: CRI: 1-513-552-7200

2. COMPOSITION / INFORMATION ON INGREDIENTS

No hazardous ingredients known to Color Resolutions International LLC.

3. HAZARDS IDENTIFICATION

Emergency Overview: Not a significant fire hazard.

Flash Point (°F): Not Applicable

HMIS Rating:

Health =	1
Flammability =	0
Reactivity =	0

Principle Routes of Exposure:

Ingestion:	Not expected to be harmful under normal conditions of use.
Inhalation:	Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.
Skin Contact:	May cause irritation on prolonged or repeated contact.
Skin Absorption:	Not expected to be harmful under normal conditions of use.
Eye Contact:	May cause irritation on prolonged or repeated contact.

Carcinogenic Ingredients per NTP, IARC or OSHA:
None, unless listed below.

4. FIRST AID MEASURES

Ingestion:
If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

Inhalation:
Remove to fresh air.

Skin Contact:
Immediately flush with plenty of water for at least 15 minutes.

Eye Contact:
Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point (°F):	Not Applicable
Flammable Limits in Air, LEL - UEL %:	Not Determined
Fire Hazard Statement	Will not burn unless water has evaporated. Dried material may burn.

Extinguishing Media
In case of fire, use water spray, dry chemical, "alcohol" foam or CO2. Use water to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Color Resolutions International LLC. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

7. HANDLING AND STORAGE

Handling

General
Handle in accordance with good industrial hygiene and safety practices.

Inhalation:	Avoid prolonged or repeated breathing of vapor.
Skin Contact:	Avoid prolonged or repeated contact with skin and clothing.
Eye Contact:	Avoid prolonged or repeated contact with eyes.

Storage

Keep container closed. Store in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Controls

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Wear impervious gloves as required to prevent skin contact. Use goggles if contact is likely.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Orange
Odor:	Ammonia
Boiling Point / Range (°F):	Not Applicable
Flash Point (°F):	Not Applicable
Flammable Limits in Air, LEL - UEL %:	Not Determined
pH:	8.5 - 9.5
Solubility in water:	Dispersible
Specific Gravity:	1.10
Vapor Density (air=1)	Not Determined
Vapor Pressure @ 20°C (mm Hg):	Not Applicable
Evaporation Rate (Butyl Acetate=1):	Not Available
Partition Coefficient (Oil/Water):	Not determined
Percent Volatile (%):	57-61

10. STABILITY AND REACTIVITY

Stability
Normally stable as defined in NFPA 704-12(4-3.1).
Polymerization:
Will not occur.
Incompatibilities:
None known
Decomposition Products:
Oxides of carbon.
Other Hazards:
None known.

11. TOXICOLOGICAL INFORMATION

Product Information

See Section 3 Hazards Identification Information.

Component LC50 and LD50 Data

No hazardous components have LC50 or LD50 data unless listed below.

12. ECOLOGICAL INFORMATION

Not Determined

13. DISPOSAL CONSIDERATIONS

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transportation. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

U.S. Dept of Transportation Proper Shipping Name
Non-Regulated.

Canadian Transportation of Dangerous Goods (TDG):
Not determined.

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA Hazard Communications Standard 29CFR1910.1200:
This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III Section 311 / 312
Does not meet any hazard category.

SARA Title III Section 313 and 40 CFR Part 372
If there are none listed below, than this product does not contain any toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372:

TSCA Section 8(b) Inventory
All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by Color Resolutions International LLC.

Canadian Regulations

Canadian Environmental Protection Act (CEPA)

DSL/NDSL
One or more components of this product is not listed on the DSL or the NDSL.

National Pollutant Release Inventory (NPRI)
If there are none listed below, this product does not contain chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory:

State Regulations

California Proposition 65
If any information is required for this product in accordance with Proposition 65, it is provided below:

Pennsylvania Worker & Community RTK Act
Components not regulated by OSHA withheld as trade secret.

16. OTHER INFORMATION

FDA:
This product is not FDA approved, however it is acceptable for printing on food packaging provided there is a functional barrier to the migration of the ink components.

CONEG:
This product complies with the Coalition of Northeast Governors (CONEG) Reduction of Toxics in Packaging Model Legislation by the fact that no lead, mercury, cadmium, or hexavalent chromium was intentionally added to this product. Also, the sum total of lead, mercury, cadmium and hexavalent chromium will not exceed 100 ppm.

User's Responsibility:
The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer:
SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damage, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

10

Material Safety Data Sheet

Print Date: 12/09/2011 Revision: 7 Revision Date: 12/09/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 36PW40069
Description: LT FAST PURPLE

Recommended Use: Water Base Dispersion, Printing Ink

Supplier:
Color Resolutions International LLC
575 Quality Boulevard
Fairfield, OH 45014-2294

Emergency Telephone Number: CHEMTREC 1-800-424-9300 (Outside the United States use 703-527-3887)
Non-Emergency Phone Number: CRI: 1-513-552-7200

2. COMPOSITION INFORMATION ON INGREDIENTS

No hazardous ingredients known to Color Resolutions International LLC.

3. HAZARDS IDENTIFICATION

Emergency Overview: Not a significant fire hazard.

Flash Point (°F): Not applicable

HMIS Rating:

Health =	1
Flammability =	0
Reactivity =	0

Principle Routes of Exposure:

Ingestion:	Not expected to be harmful under normal conditions of use.
Inhalation:	Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.
Skin Contact:	May cause irritation on prolonged or repeated contact.
Skin Absorption:	No hazards known to Color Resolutions International LLC.
Eye Contact:	May cause irritation on prolonged or repeated contact.

Carcinogenic Ingredients per NTP, IARC or OSHA:
None, unless listed below.

4. FIRST AID MEASURES

Inhalation:
Remove to fresh air.

Skin Contact:
In case of irritation, flush with water.

Eye Contact:
Immediately flush eyes with plenty of water. Call a physician if irritation persists.

Ingestion:
If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

5. FIRE FIGHTING MEASURES

Flash Point (°F):	Not applicable
Flammable Limits in Air, LEL - UEL %:	Not Determined
Fire Hazard Statement	Will not burn unless water has evaporated. Dried material may burn.
Extinguishing Media	In case of fire, use water spray, dry chemical, foam or CO2. Use water to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

- Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Color Resolutions International LLC. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

7. HANDLING AND STORAGE

Precautions for Safe Handling

General
Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of the material from eyes, skin and clothing. Wash thoroughly after handling.

Inhalation:	Avoid prolonged or repeated breathing of vapor.
Skin Contact:	Avoid prolonged or repeated contact with skin and clothing.
Eye Contact:	Avoid prolonged or repeated contact with eyes.

Conditions for Safe Storage:

Keep container closed. Store in a cool, dry place. Keep from freezing. Mix well before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommended Monitoring Procedures:
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering Exposure Control Measures:
The following exposure control techniques may be used to effectively minimize employee exposure: local exhaust ventilation, enclosed system design, process isolation and remote control in combination with appropriate use of personal protective equipment and prudent work practices. These techniques may not necessarily address all issues pertaining to your operations. We, therefore, recommend that you consult with experts of your choice to determine whether or not your programs are adequate. If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

Personal Protection:
Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Wear impervious gloves as required to prevent skin contact. Use goggles if contact is likely.

Environmental Exposure Controls
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters, or engineering modifications to the process equipment could be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Color:	Purple
Odor:	Mild
pH:	9.2-9.6
Boiling Point / Range (°F):	>212
Flash Point (°F):	Not applicable
Flammable Limits in Air, LEL - UEL %:	Not Determined
Solubility in water:	Dispersible
Pounds / Gallon:	9.40
Vapor Density (air=1)	Not Determined
Vapor Pressure @ 20°C (mm Hg):	Not Determined
Evaporation Rate (Butyl Acetate=1):	< 1.0
Partition Coefficient (Oil/Water):	Not determined

10. STABILITY AND REACTIVITY

Stability
Normally stable as defined in NFPA 704-12(4-3.1).

Polymerization:
Will not occur.

Incompatibilities:
None known to Color Resolutions International LLC.

Decomposition Products:
Oxides of carbon. Oxides of nitrogen.

Other Hazards:
None known.

11. TOXICOLOGICAL INFORMATION

Product Information

See Section 3 Hazards Identification Information.

Component LC50 and LD50 Data

No hazardous components have LC50 or LD50 data unless listed below.

12. ECOLOGICAL INFORMATION

Environmental Effects

No known significant effects or critical hazards have been determined for this product.

13. DISPOSAL CONSIDERATIONS

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transportation. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

U.S. Dept of Transportation Proper Shipping Name

Non-Regulated.

Canadian Transportation of Dangerous Goods (TDG):

Not determined.

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA Hazard Communications Standard 29CFR1910.1200:

This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III Section 311 / 312

Does not meet any hazard category.

SARA Title III Section 313 and 40 CFR Part 372

If there are none listed below, than this product does not contain any toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372:

TSCA Section 8(b) Inventory

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by Color Resolutions International LLC.

Canadian Regulations

Canadian Environmental Protection Act (CEPA)

DSL/NDSL
One or more components of this product is not listed on the DSL or the NDSL.

National Pollutant Release Inventory (NPRI)
If there are none listed below, this product does not contain chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory:

State Regulations

California Proposition 65
WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986, we provide this warning in the absence of definitive testing showing that risks from long-term exposure to the substances present in our products do not exist.

Pennsylvania Worker & Community RTK Act
Components not regulated by OSHA withheld as trade secret.

16. OTHER INFORMATION

FDA:
This product is not FDA approved, however it is acceptable for printing on food packaging provided there is a functional barrier to the migration of the ink components.

CONEG:
This product complies with the Coalition of Northeast Governors (CONEG) Reduction of Toxics in Packaging Model Legislation by the fact that no lead, mercury, cadmium, or hexavalent chromium was intentionally added to this product. Also, the sum total of lead, mercury, cadmium and hexavalent chromium will not exceed 100 ppm.

User's Responsibility:
The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer:
SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damage, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

Material Safety Data Sheet

Print Date: 01/29/2007 Revision: 4 Revision Date: 02/20/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Code:	36YW08809
Description:	PROCESS YELLOW
Application:	Flexographic Printing
Product Type:	Water Base Dispersion
Supplier:	Color Resolutions International LLC 575 Quality Boulevard Fairfield, OH 45014-2294

Emergency Telephone Number: CHEMTREC 1-800-424-9300 (Outside the United States use 703-527-3887)
Non-Emergency Phone Number: CRI: 1-513-552-7200

2. COMPOSITION / INFORMATION ON INGREDIENTS

No hazardous ingredients known to Color Resolutions International LLC.

3. HAZARDS IDENTIFICATION

Emergency Overview: Not a significant fire hazard.

Flash Point (°F): 200

HMIS Rating:

Health =	1
Flammability =	0
Reactivity =	0

Principle Routes of Exposure:

Ingestion:	Not expected to be harmful under normal conditions of use.
Inhalation:	Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.
Skin Contact:	May cause irritation on prolonged or repeated contact.
Skin Absorption:	Not expected to be harmful under normal conditions of use.
Eye Contact:	May cause irritation on prolonged or repeated contact.

Carcinogenic Ingredients per NTP, IARC or OSHA:
None, unless listed below.

4. FIRST AID MEASURES

Ingestion:
If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

Inhalation:
Remove to fresh air.

Skin Contact:
Immediately flush with plenty of water for at least 15 minutes.

Eye Contact:
Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point (°F):	200
Flammable Limits in Air, LEL - UEL %:	Not Determined
Fire Hazard Statement	Will not burn unless water has evaporated. Dried material may burn.

Extinguishing Media
In case of fire, use water spray, dry chemical, foam or CO2. Use water to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Color Resolutions International LLC. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

7. HANDLING AND STORAGE

Handling

General
Handle in accordance with good industrial hygiene and safety practices.

Inhalation:	Avoid prolonged or repeated breathing of vapor.
Skin Contact:	Avoid prolonged or repeated contact with skin and clothing.
Eye Contact:	Avoid prolonged or repeated contact with eyes.

Storage

Keep container closed. Store in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Controls

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Use goggles if contact is likely. Wear impervious gloves as required to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Yellow
Odor:	Mild
Boiling Point / Range (°F):	200
Flash Point (°F):	200
Flammable Limits in Air, LEL - UEL %:	Not Determined
Solubility in water:	Dispersible
Specific Gravity:	.96
Vapor Density (air=1)	Not Determined
Vapor Pressure @ 20°C (mm Hg):	Not Determined
Evaporation Rate (Butyl Acetate=1):	< 1.0
Partition Coefficient (Oil/Water):	Not determined

10. STABILITY AND REACTIVITY

Stability
Normally stable as defined in NFPA 704-12(4-3.1).
Polymerization:
Will not occur.
Incompatibilities:
None known
Decomposition Products:
Oxides of carbon.
Other Hazards:
None known.

11. TOXICOLOGICAL INFORMATION

Product Information

See Section 3 Hazards Identification Information.

Component LC50 and LD50 Data

No hazardous components have LC50 or LD50 data unless listed below.

12. ECOLOGICAL INFORMATION

Not Determined

13. DISPOSAL CONSIDERATIONS

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transportation. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

U.S. Dept of Transportation Proper Shipping Name
Non-Regulated.

Canadian Transportation of Dangerous Goods (TDG):
Not determined.

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA Hazard Communications Standard 29CFR1910.1200:
This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III Section 311 / 312
Does not meet any hazard category.

SARA Title III Section 313 and 40 CFR Part 372
None required per SARA TITLE III SECTION 313.

TSCA Section 8(b) Inventory
All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by Color Resolutions International LLC.

Canadian Regulations

Canadian Environmental Protection Act (CEPA)

DSL/NDSL
One or more components of this product is not listed on the DSL or the NDSL.

National Pollutant Release Inventory (NPRI)
If there are none listed below, this product does not contain chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory:

State Regulations

California Proposition 65
If any information is required for this product in accordance with Proposition 65, it is provided below:

Pennsylvania Worker & Community RTK Act
Components not regulated by OSHA withheld as trade secret.

16. OTHER INFORMATION

FDA:
This product is not FDA approved, however it is acceptable for printing on food packaging provided there is a functional barrier to the migration of the ink components.

CONEG:
This product complies with the Coalition of Northeast Governors (CONEG) Reduction of Toxics in Packaging Model Legislation by the fact that no lead, mercury, cadmium, or hexavalent chromium was intentionally added to this product. Also, the sum total of lead, mercury, cadmium and hexavalent chromium will not exceed 100 ppm.

User's Responsibility:
The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer:
SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damage, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

Material Safety Data Sheet

Print Date: 04/04/2007 **Revision:** 7 **Revision Date:** 01/13/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Code:	7EBW42519
Description:	HYDRO GCMI 90 BLACK
Application:	Flexographic Printing
Product Type:	Water Base Printing Ink
Supplier:	Color Resolutions International LLC 575 Quality Boulevard Fairfield, OH 45014-2294

Emergency Telephone Number: CHEMTREC 1-800-424-9300 (Outside the United States use 703-527-3887)
Non-Emergency Phone Number: CRI: 1-513-552-7200

2. COMPOSITION / INFORMATION ON INGREDIENTS

No hazardous ingredients known to Color Resolutions International LLC.

3. HAZARDS IDENTIFICATION

Emergency Overview: Not a significant fire hazard.

Flash Point (°F): Not combustible

HMIS Rating:

Health =	1
Flammability =	0
Reactivity =	0

Principle Routes of Exposure:

Ingestion:	No hazards known to Color Resolutions International LLC.
Inhalation:	Not expected to be harmful under normal conditions of use. However, if allowed to become airborne, may cause irritation of nose, throat and lungs.
Skin Contact:	May cause irritation on prolonged or repeated contact.
Skin Absorption:	Not expected to be harmful under normal conditions of use.
Eye Contact:	May cause irritation on prolonged or repeated contact.

Carcinogenic Ingredients per NTP, IARC or OSHA:
None, unless listed below.

4. FIRST AID MEASURES

Ingestion:
If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

Inhalation:
Remove to fresh air.

Skin Contact:
In case of irritation, flush with water.

Eye Contact:
Immediately flush eyes with plenty of water. Call a physician if irritation persists.

5. FIRE FIGHTING MEASURES

Flash Point (°F):	Not combustible
Flammable Limits in Air, LEL - UEL %:	Not determined
Fire Hazard Statement	Will not burn unless water has evaporated. Dried material may burn.

Extinguishing Media
In case of fire, use water spray, dry chemical, "alcohol" foam or CO2. Use water to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES

Large quantities: Enclose with diking material to prevent seepage into natural bodies of water, then consult Color Resolutions International LLC. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

7. HANDLING AND STORAGE

Handling

General
Handle in accordance with good industrial hygiene and safety practices.

Inhalation:	Avoid prolonged or repeated breathing of vapor.
Skin Contact:	Avoid prolonged or repeated contact with skin and clothing.
Eye Contact:	Avoid prolonged or repeated contact with eyes.

Storage

Keep container closed. Store in a cool, dry place. Keep from freezing. Mix well before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Controls
If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contaminant concentration levels below acceptable criteria.

Personal Protection

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA laws and regulations or other applicable standards or guidelines, including ANSI standards regarding respiratory protection. Use goggles if contact is likely. Wear impervious gloves as required to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Black
Odor:	Mild
pH:	9.1-9.4
Boiling Point / Range (°F):	173
Flash Point (°F):	Not combustible
Flammable Limits in Air, LEL - UEL %:	Not determined
Solubility in water:	Dispersible
Pounds / Gallon:	8.9-9.1
Specific Gravity:	1.08
Vapor Density (air=1)	Not determined
Vapor Pressure @ 20°C (mm Hg):	Not determined
Evaporation Rate (Butyl Acetate=1):	< 1.0
Partition Coefficient (Oil/Water):	Not determined

10. STABILITY AND REACTIVITY

Stability
Normally stable as defined in NFPA 704-12(4-3.1).
Polymerization:
Will not occur.
Incompatibilities:
None known to Color Resolutions International LLC
Decomposition Products:
Oxides of carbon.
Other Hazards:
None known.

11. TOXICOLOGICAL INFORMATION

Product Information

See Section 3 Hazards Identification Information.

Component LC50 and LD50 Data

No hazardous components have LC50 or LD50 data unless listed below.

12. ECOLOGICAL INFORMATION

Not Determined

13. DISPOSAL CONSIDERATIONS

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

14. TRANSPORT INFORMATION

The data provided in this section is for information only and may not be specific to your package size or mode of transportation. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

U.S. Dept of Transportation Proper Shipping Name
Non-Regulated.

Canadian Transportation of Dangerous Goods (TDG):
Not determined.

15. REGULATORY INFORMATION

U.S. Federal Regulations

OSHA Hazard Communications Standard 29CFR1910.1200:
This material is not a "health hazard" or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III Section 311 / 312
Does not meet any hazard category.

SARA Title III Section 313 and 40 CFR Part 372
If there are none listed below, than this product does not contain any toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372:

TSCA Section 8(b) Inventory
All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by Color Resolutions International LLC.

Canadian Regulations

Canadian Environmental Protection Act (CEPA)

DSL/NDSL
One or more components of this product is not listed on the DSL or the NDSL.

National Pollutant Release Inventory (NPRI)
If there are none listed below, this product does not contain chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory:

State Regulations

California Proposition 65
If any information is required for this product in accordance with Proposition 65, it is provided below:

Pennsylvania Worker & Community RTK Act
Components not regulated by OSHA withheld as trade secret.

16. OTHER INFORMATION

FDA:
This product is not FDA approved, however it is acceptable for printing on food packaging provided there is a functional barrier to the migration of the ink components.

CONEG:
This product complies with the Coalition of Northeast Governors (CONEG) Reduction of Toxics in Packaging Model Legislation by the fact that no lead, mercury, cadmium, or hexavalent chromium was intentionally added to this product. Also, the sum total of lead, mercury, cadmium and hexavalent chromium will not exceed 100 ppm.

User's Responsibility:
The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer:
SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damage, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

APPENDIX B
Laboratory Analytical Data (January 2014)

New England ACCUTEST LABORATORIES

02/14/14

Technical Report for

H2M Associates, Inc

Macbeth, 617 Little Britain, New Windsor, NY

2MAC0101

Accutest Job Number: MC27979

Sampling Date: 01/29/14

Report to:

H2M Associates, Inc

jmcnanna@h2m.com

ATTN: Joe McNanna

Total number of pages in report: **141**

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Tand
Lab Director

Client Service contact: Matthew Morrell 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

-1-

Sample Summary

H2M Associates, Inc

Job No: MC27979

Macbeth, 617 Little Britain, New Windsor, NY
Project No: 2MAC0101

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
MC27979-1	01/29/14	11:05	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-2
MC27979-1A	01/29/14	11:05	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-2
MC27979-2	01/29/14	11:47	JRM	01/30/14	AIR	Ambient Air Comp.	IA-2
MC27979-2A	01/29/14	11:47	JRM	01/30/14	AIR	Ambient Air Comp.	IA-2
MC27979-3	01/29/14	11:10	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-3
MC27979-3A	01/29/14	11:10	JRM	01/30/14	AIR	Soil Vapor Comp.	SG-3
MC27979-4	01/29/14	14:15	JRM	01/30/14	AIR	Ambient Air Comp.	IA-3
MC27979-4A	01/29/14	14:15	JRM	01/30/14	AIR	Ambient Air Comp.	IA-3
MC27979-5	01/29/14	00:00	JRM	01/30/14	AIR	Trip Blank Air	TRIP BLANK
MC27979-5A	01/29/14	00:00	JRM	01/30/14	AIR	Trip Blank Air	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	EnviroTrac	**Job No**	MC28070
Site:	Hess:#21307 110 Cambridge St., Burlington, MA	**Report Date**	2/14/2014 3:55:18 PM

5 Sample(s) were collected on 02/03/2014 and were received at Accutest on 02/03/2014 properly preserved, at 1.2 Deg. C and intact. These Samples received an Accutest job number of MC28070. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method MADEP VPH REV 1.1

Matrix AQ **Batch ID:** GBD3007

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ **Batch ID:** GBD3008

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety.The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC28070).

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC27979-1	**SG-2**					
Acetone		9.5	0.50	0.17	ppbv	TO-15
Benzene		0.18 J	0.50	0.091	ppbv	TO-15
Chloroform		0.12 J	0.50	0.10	ppbv	TO-15
Chloromethane		0.24 J	0.50	0.074	ppbv	TO-15
Carbon tetrachloride		0.34	0.20	0.092	ppbv	TO-15
Dichlorodifluoromethane		1.3	0.50	0.034	ppbv	TO-15
trans-1,2-Dichloroethylene		0.099 J	0.20	0.071	ppbv	TO-15
Ethanol		17.3	0.50	0.13	ppbv	TO-15
Ethylbenzene		0.25 J	0.50	0.089	ppbv	TO-15
Ethyl Acetate		0.63	0.50	0.12	ppbv	TO-15
Freon 113		63.8	2.5	0.45	ppbv	TO-15
Heptane		0.20 J	0.50	0.10	ppbv	TO-15
Hexane		0.13 J	0.50	0.090	ppbv	TO-15
Isopropyl Alcohol		5.4	0.50	0.10	ppbv	TO-15
Methylene chloride		0.23 J	0.50	0.088	ppbv	TO-15
Methyl ethyl ketone		1.5	0.50	0.15	ppbv	TO-15
Methyl Isobutyl Ketone		0.30 J	0.50	0.10	ppbv	TO-15
Propylene		7.5	0.50	0.048	ppbv	TO-15
1,1,1-Trichloroethane		41.8	1.0	0.40	ppbv	TO-15
Tetrachloroethylene		0.48	0.20	0.098	ppbv	TO-15
Toluene		2.8	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane		3.6	0.50	0.088	ppbv	TO-15
Vinyl Acetate		0.62	0.50	0.11	ppbv	TO-15
m,p-Xylene		0.62	0.50	0.20	ppbv	TO-15
o-Xylene		0.18 J	0.50	0.11	ppbv	TO-15
Xylenes (total)		0.80	0.50	0.11	ppbv	TO-15
Acetone		23	1.2	0.40	ug/m3	TO-15
Benzene		0.58 J	1.6	0.29	ug/m3	TO-15
Chloroform		0.59 J	2.4	0.49	ug/m3	TO-15
Chloromethane		0.50 J	1.0	0.15	ug/m3	TO-15
Carbon tetrachloride		2.1	1.3	0.58	ug/m3	TO-15
Dichlorodifluoromethane		6.4	2.5	0.17	ug/m3	TO-15
trans-1,2-Dichloroethylene		0.39 J	0.79	0.28	ug/m3	TO-15
Ethanol		32.5	0.94	0.24	ug/m3	TO-15
Ethylbenzene		1.1 J	2.2	0.39	ug/m3	TO-15
Ethyl Acetate		2.3	1.8	0.43	ug/m3	TO-15
Freon 113		489	19	3.4	ug/m3	TO-15
Heptane		0.82 J	2.0	0.41	ug/m3	TO-15
Hexane		0.46 J	1.8	0.32	ug/m3	TO-15
Isopropyl Alcohol		13	1.2	0.25	ug/m3	TO-15
Methylene chloride		0.80 J	1.7	0.31	ug/m3	TO-15
Methyl ethyl ketone		4.4	1.5	0.44	ug/m3	TO-15
Methyl Isobutyl Ketone		1.2 J	2.0	0.41	ug/m3	TO-15

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Propylene		13	0.86	0.082	ug/m3	TO-15
1,1,1-Trichloroethane		228	5.5	2.2	ug/m3	TO-15
Tetrachloroethylene		3.3	1.4	0.66	ug/m3	TO-15
Toluene		11	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane		20	2.8	0.49	ug/m3	TO-15
Vinyl Acetate		2.2	1.8	0.39	ug/m3	TO-15
m,p-Xylene		2.7	2.2	0.87	ug/m3	TO-15
o-Xylene		0.78 J	2.2	0.48	ug/m3	TO-15
Xylenes (total)		3.5	2.2	0.48	ug/m3	TO-15
MC27979-1A	**SG-2**					
Trichloroethylene		0.85	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene		4.6	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-2	**IA-2**					
Acetone		13.2	0.50	0.17	ppbv	TO-15
Benzene		0.57	0.50	0.091	ppbv	TO-15
Cyclohexane		0.14 J	0.50	0.082	ppbv	TO-15
Dichlorodifluoromethane		0.51	0.50	0.034	ppbv	TO-15
Ethanol		44.7	2.5	0.63	ppbv	TO-15
Ethyl Acetate		1.5	0.50	0.12	ppbv	TO-15
Heptane		0.91	0.50	0.10	ppbv	TO-15
Hexane		0.21 J	0.50	0.090	ppbv	TO-15
Isopropyl Alcohol		8.7	0.50	0.10	ppbv	TO-15
Methylene chloride		0.23 J	0.50	0.088	ppbv	TO-15
Methyl ethyl ketone		1.6	0.50	0.15	ppbv	TO-15
Methyl Isobutyl Ketone		0.77	0.50	0.10	ppbv	TO-15
Tertiary Butyl Alcohol		0.71	0.50	0.085	ppbv	TO-15
Tetrahydrofuran		0.28 J	0.50	0.14	ppbv	TO-15
Toluene		9.7	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane		0.91	0.50	0.088	ppbv	TO-15
Vinyl Acetate		1.9	0.50	0.11	ppbv	TO-15
m,p-Xylene		0.37 J	0.50	0.20	ppbv	TO-15
o-Xylene		0.16 J	0.50	0.11	ppbv	TO-15
Xylenes (total)		0.53	0.50	0.11	ppbv	TO-15
Acetone		31.4	1.2	0.40	ug/m3	TO-15
Benzene		1.8	1.6	0.29	ug/m3	TO-15
Cyclohexane		0.48 J	1.7	0.28	ug/m3	TO-15
Dichlorodifluoromethane		2.5	2.5	0.17	ug/m3	TO-15
Ethanol		84.1	4.7	1.2	ug/m3	TO-15
Ethyl Acetate		5.4	1.8	0.43	ug/m3	TO-15
Heptane		3.7	2.0	0.41	ug/m3	TO-15
Hexane		0.74 J	1.8	0.32	ug/m3	TO-15

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Isopropyl Alcohol	21	1.2	0.25	ug/m3	TO-15
Methylene chloride	0.80 J	1.7	0.31	ug/m3	TO-15
Methyl ethyl ketone	4.7	1.5	0.44	ug/m3	TO-15
Methyl Isobutyl Ketone	3.2	2.0	0.41	ug/m3	TO-15
Tertiary Butyl Alcohol	2.2	1.5	0.26	ug/m3	TO-15
Tetrahydrofuran	0.82 J	1.5	0.41	ug/m3	TO-15
Toluene	37	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane	5.1	2.8	0.49	ug/m3	TO-15
Vinyl Acetate	6.7	1.8	0.39	ug/m3	TO-15
m,p-Xylene	1.6 J	2.2	0.87	ug/m3	TO-15
o-Xylene	0.69 J	2.2	0.48	ug/m3	TO-15
Xylenes (total)	2.3	2.2	0.48	ug/m3	TO-15
MC27979-2A IA-2					
Trichloroethylene	0.010	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene	0.054	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-3 SG-3					
Acetone	6.5	0.50	0.17	ppbv	TO-15
Dichlorodifluoromethane	32.0	0.50	0.034	ppbv	TO-15
Freon 113	16.8	0.50	0.091	ppbv	TO-15
Hexane	0.12 J	0.50	0.090	ppbv	TO-15
Propylene	2.1	0.50	0.048	ppbv	TO-15
1,1,1-Trichloroethane	34.8	0.20	0.080	ppbv	TO-15
1,2,4-Trimethylbenzene	0.47 J	0.50	0.068	ppbv	TO-15
Tetrachloroethylene	79.7	2.0	0.98	ppbv	TO-15
Toluene	0.41 J	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane	9.0	0.50	0.088	ppbv	TO-15
m,p-Xylene	0.28 J	0.50	0.20	ppbv	TO-15
Xylenes (total)	0.28 J	0.50	0.11	ppbv	TO-15
Acetone	15	1.2	0.40	ug/m3	TO-15
Dichlorodifluoromethane	158	2.5	0.17	ug/m3	TO-15
Freon 113	129	3.8	0.70	ug/m3	TO-15
Hexane	0.42 J	1.8	0.32	ug/m3	TO-15
Propylene	3.6	0.86	0.082	ug/m3	TO-15
1,1,1-Trichloroethane	190	1.1	0.44	ug/m3	TO-15
1,2,4-Trimethylbenzene	2.3 J	2.5	0.33	ug/m3	TO-15
Tetrachloroethylene	540	14	6.6	ug/m3	TO-15
Toluene	1.5 J	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane	51	2.8	0.49	ug/m3	TO-15
m,p-Xylene	1.2 J	2.2	0.87	ug/m3	TO-15
Xylenes (total)	1.2 J	2.2	0.48	ug/m3	TO-15

Summary of Hits

Job Number: MC27979
Account: H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Collected: 01/29/14

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC27979-3A	**SG-3**					
Trichloroethylene		0.11	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene		0.59	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-4	**IA-3**					
Acetone		7.5	0.50	0.17	ppbv	TO-15
Benzene		0.47 J	0.50	0.091	ppbv	TO-15
Chloromethane		0.58	0.50	0.074	ppbv	TO-15
Dichlorodifluoromethane		0.47 J	0.50	0.034	ppbv	TO-15
Heptane		0.47 J	0.50	0.10	ppbv	TO-15
Methylene chloride		0.21 J	0.50	0.088	ppbv	TO-15
Methyl ethyl ketone		0.80	0.50	0.15	ppbv	TO-15
Toluene		5.2	0.50	0.11	ppbv	TO-15
Trichlorofluoromethane		0.39 J	0.50	0.088	ppbv	TO-15
Vinyl Acetate		1.3	0.50	0.11	ppbv	TO-15
Acetone		18	1.2	0.40	ug/m3	TO-15
Benzene		1.5 J	1.6	0.29	ug/m3	TO-15
Chloromethane		1.2	1.0	0.15	ug/m3	TO-15
Dichlorodifluoromethane		2.3 J	2.5	0.17	ug/m3	TO-15
Heptane		1.9 J	2.0	0.41	ug/m3	TO-15
Methylene chloride		0.73 J	1.7	0.31	ug/m3	TO-15
Methyl ethyl ketone		2.4	1.5	0.44	ug/m3	TO-15
Toluene		20	1.9	0.41	ug/m3	TO-15
Trichlorofluoromethane		2.2 J	2.8	0.49	ug/m3	TO-15
Vinyl Acetate		4.6	1.8	0.39	ug/m3	TO-15
MC27979-4A	**IA-3**					
Trichloroethylene		0.013	0.0050	0.0022	ppbv	TO-15 BY SIM
Trichloroethylene		0.070	0.027	0.012	ug/m3	TO-15 BY SIM
MC27979-5	**TRIP BLANK**					
Acetone		0.30 J	0.50	0.17	ppbv	TO-15
Acetone		0.71 J	1.2	0.40	ug/m3	TO-15
MC27979-5A	**TRIP BLANK**					

No hits reported in this sample.

New England ACCUTEST LABORATORIES

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: SG-2
Lab Sample ID: MC27979-1
Matrix: AIR - Soil Vapor Comp. Summa ID: M133
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26771.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2	J26776.D	5	02/13/14	JB	n/a	n/a	MSJ1381

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	9.5	0.50	0.17	ppbv		23	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	0.18	0.50	0.091	ppbv	J	0.58	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	0.12	0.50	0.10	ppbv	J	0.59	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.24	0.50	0.074	ppbv	J	0.50	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.34	0.20	0.092	ppbv		2.1	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	1.3	0.50	0.034	ppbv		6.4	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	0.099	0.20	0.071	ppbv	J	0.39	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-2
Lab Sample ID: MC27979-1
Matrix: AIR - Soil Vapor Comp. Summa ID: M133
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	17.3	0.50	0.13	ppbv		32.5	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	0.25	0.50	0.089	ppbv	J	1.1	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	0.63	0.50	0.12	ppbv		2.3	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	63.8 [a]	2.5	0.45	ppbv		489 [a]	19	3.4	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	0.20	0.50	0.10	ppbv	J	0.82	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	0.13	0.50	0.090	ppbv	J	0.46	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	5.4	0.50	0.10	ppbv		13	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.23	0.50	0.088	ppbv	J	0.80	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	1.5	0.50	0.15	ppbv		4.4	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.30	0.50	0.10	ppbv	J	1.2	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	7.5	0.50	0.048	ppbv		13	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	41.8 [a]	1.0	0.40	ppbv		228 [a]	5.5	2.2	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.48	0.20	0.098	ppbv		3.3	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	2.8	0.50	0.11	ppbv		11	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	3.6	0.50	0.088	ppbv		20	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	0.62	0.50	0.11	ppbv		2.2	1.8	0.39	ug/m3
	106.2	m,p-Xylene	0.62	0.50	0.20	ppbv		2.7	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.18	0.50	0.11	ppbv	J	0.78	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	0.80	0.50	0.11	ppbv		3.5	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	70%	100%	50-129%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-2
Lab Sample ID: MC27979-1A
Matrix: AIR - Soil Vapor Comp. Summa ID: M133
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25753.D	1	02/13/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.85	0.0050	0.0022	ppbv		4.6	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-2
Lab Sample ID: MC27979-2
Matrix: AIR - Ambient Air Comp. Summa ID: M241,M003
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26777.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2	J26781.D	5	02/14/14	JB	n/a	n/a	MSJ1382

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	13.2	0.50	0.17	ppbv		31.4	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	0.57	0.50	0.091	ppbv		1.8	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	0.14	0.50	0.082	ppbv	J	0.48	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.51	0.50	0.034	ppbv		2.5	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-2
Lab Sample ID: MC27979-2
Matrix: AIR - Ambient Air Comp. Summa ID: M241,M003
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	44.7 [a]	2.5	0.63	ppbv		84.1 [a]	4.7	1.2	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	1.5	0.50	0.12	ppbv		5.4	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	0.91	0.50	0.10	ppbv		3.7	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	0.21	0.50	0.090	ppbv	J	0.74	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	8.7	0.50	0.10	ppbv		21	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.23	0.50	0.088	ppbv	J	0.80	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	1.6	0.50	0.15	ppbv		4.7	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	0.77	0.50	0.10	ppbv		3.2	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	ND	0.50	0.048	ppbv		ND	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.71	0.50	0.085	ppbv		2.2	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	0.28	0.50	0.14	ppbv	J	0.82	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	9.7	0.50	0.11	ppbv		37	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.91	0.50	0.088	ppbv		5.1	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	1.9	0.50	0.11	ppbv		6.7	1.8	0.39	ug/m3
	106.2	m,p-Xylene	0.37	0.50	0.20	ppbv	J	1.6	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.16	0.50	0.11	ppbv	J	0.69	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	0.53	0.50	0.11	ppbv		2.3	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	69%	88%	50-129%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-2
Lab Sample ID: MC27979-2A
Matrix: AIR - Ambient Air Comp. Summa ID: M003
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25755.D	1	02/13/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.010	0.0050	0.0022	ppbv		0.054	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-3
Lab Sample ID: MC27979-3
Matrix: AIR - Soil Vapor Comp. Summa ID: M022
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26772.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2	J26773.D	10	02/13/14	JB	n/a	n/a	MSJ1381

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	6.5	0.50	0.17	ppbv		15	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	ND	0.50	0.091	ppbv		ND	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	32.0	0.50	0.034	ppbv		158	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-3
Lab Sample ID: MC27979-3
Matrix: AIR - Soil Vapor Comp. Summa ID: M022
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	16.8	0.50	0.091	ppbv		129	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	0.12	0.50	0.090	ppbv	J	0.42	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	2.1	0.50	0.048	ppbv		3.6	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	34.8	0.20	0.080	ppbv		190	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.47	0.50	0.068	ppbv	J	2.3	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	79.7 [a]	2.0	0.98	ppbv		540 [a]	14	6.6	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	0.41	0.50	0.11	ppbv	J	1.5	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	9.0	0.50	0.088	ppbv		51	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	0.39	ug/m3
	106.2	m,p-Xylene	0.28	0.50	0.20	ppbv	J	1.2	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	0.28	0.50	0.11	ppbv	J	1.2	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%	87%	50-129%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SG-3
Lab Sample ID: MC27979-3A
Matrix: AIR - Soil Vapor Comp. Summa ID: M022
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25756.D	1	02/13/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.11	0.0050	0.0022	ppbv		0.59	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-3
Lab Sample ID: MC27979-4
Matrix: AIR - Ambient Air Comp. Summa ID: M165
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	7.5	0.50	0.17	ppbv		18	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	0.47	0.50	0.091	ppbv	J	1.5	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	0.58	0.50	0.074	ppbv		1.2	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.47	0.50	0.034	ppbv	J	2.3	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-3
Lab Sample ID: MC27979-4
Matrix: AIR - Ambient Air Comp. Summa ID: M165
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	0.47	0.50	0.10	ppbv	J	1.9	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	0.21	0.50	0.088	ppbv	J	0.73	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.80	0.50	0.15	ppbv		2.4	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	ND	0.50	0.048	ppbv		ND	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	5.2	0.50	0.11	ppbv		20	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.39	0.50	0.088	ppbv	J	2.2	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	1.3	0.50	0.11	ppbv		4.6	1.8	0.39	ug/m3
	106.2	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		50-129%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: IA-3
Lab Sample ID: MC27979-4A
Matrix: AIR - Ambient Air Comp. Summa ID: M165
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25758.D	1	02/14/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	0.013	0.0050	0.0022	ppbv		0.070	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	111%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC27979-5
Matrix: AIR - Trip Blank Air Summa ID: M114
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J26770.D	1	02/13/14	JB	n/a	n/a	MSJ1381
Run #2 [a]	J26769.D	1	02/13/14	JB	n/a	n/a	MSJ1381

	Initial Volume
Run #1	400 ml
Run #2	400 ml

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
67-64-1	58.08	Acetone	0.30	0.50	0.17	ppbv	J	0.71	1.2	0.40	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	0.29	ug/m3
71-43-2	78.11	Benzene	ND	0.50	0.091	ppbv		ND	1.6	0.29	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	0.80	ug/m3
74-83-9	94.94	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	0.39	ug/m3
593-60-2	106.9	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	2.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	0.18	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	0.60	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	0.37	ug/m3
67-66-3	119.4	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	0.49	ug/m3
74-87-3	50.49	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	0.15	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	0.20	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	0.35	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	0.58	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	0.28	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	0.32	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	0.37	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	1.1	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	0.45	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	0.40	ug/m3
123-91-1	88	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	0.58	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	0.17	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	0.65	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	0.28	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	0.31	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	0.50	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	1.6	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	0.90	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	1.9	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	0.82	ug/m3

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC27979-5
Matrix: AIR - Trip Blank Air Summa ID: M114
Method: TO-15
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
64-17-5	46	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	0.24	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	0.39	ug/m3
141-78-6	88	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	0.43	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	0.30	ug/m3
76-13-1	187.4	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	0.70	ug/m3
76-14-2	170.9	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	0.61	ug/m3
142-82-5	100.2	Heptane	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	4.6	ug/m3
110-54-3	86.17	Hexane	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
591-78-6	100	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	0.49	ug/m3
67-63-0	60	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	0.25	ug/m3
75-09-2	84.94	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	0.31	ug/m3
78-93-3	72.11	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	0.44	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	0.41	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	0.32	ug/m3
115-07-1	42	Propylene	ND	0.50	0.048	ppbv		ND	0.86	0.082	ug/m3
100-42-5	104.1	Styrene	ND	0.50	0.075	ppbv		ND	2.1	0.32	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	0.44	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	0.52	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	0.65	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	3.7	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	0.33	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	0.33	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	0.39	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	0.26	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	0.66	ug/m3
109-99-9	72	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	0.41	ug/m3
108-88-3	92.14	Toluene	ND	0.50	0.11	ppbv		ND	1.9	0.41	ug/m3
75-69-4	137.4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	0.49	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	0.22	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	0.39	ug/m3
	106.2	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3
1330-20-7	106.2	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	0.48	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	92%	44% [b]	50-129%

(a) Confirmation run for internal standard areas.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	MC27979-5	**Date Sampled:**	01/29/14
Matrix:	AIR - Trip Blank Air Summa ID: M114	**Date Received:**	01/30/14
Method:	TO-15	**Percent Solids:**	n/a
Project:	Macbeth, 617 Little Britain, New Windsor, NY		

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units

(b) Outside control limits. Results confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: MC27979-5A
Matrix: AIR - Trip Blank Air Summa ID: M114
Method: TO-15 BY SIM
Project: Macbeth, 617 Little Britain, New Windsor, NY

Date Sampled: 01/29/14
Date Received: 01/30/14
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q25757.D	1	02/14/14	AA	n/a	n/a	MSQ1121
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA Special List

CAS No.	MW	Compound	Result	RL	MDL	Units	Q	Result	RL	MDL	Units
79-01-6	131.4	Trichloroethylene	ND	0.0050	0.0022	ppbv		ND	0.027	0.012	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		57-139%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New England ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log
- Sample Tracking Chronicle

CHAIN OF CUSTODY

ACCUTEST Laboratories

Air Sampling Field Data Sheet

FED-EX Tracking #:

Bottle Order Control #: MC27979

Lab Quote #:

Lab Job #: MC16425

PAGE 1 OF 1

Client / Reporting Information

Company Name: H2M Associates INC

Address: 119 Cherry Hill Road Suite 200

City: Parsippany State: NJ Zip: 07054

Project Contact: Joe McNanna E-mail: JMcNanna@H2M.com

Phone #: Fax #:

Project Name: MACBeth

Street: 617 Little Britain

City: New Windsor State: NY

Project #: 2MAC0101

Client Purchase Order #:

Sampler(s) Name(s): Joe McNanna Jusen Potosnak

Weather Parameters

Temperature (Fahrenheit)

Start: 12 Maximum: 28

Stop: 28 Minimum: 8

Atmoshpheric Pressure (inches of Hg)

Start: 29.70 Maximum: –

Stop: 30.05 Minimum: 30.05

Other weather comment:

Requested Analysis

Standard TO-15 Reporting List

MA DEP APH

V7015 SIMS L (TCE - PCE - TCA)

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor(I) Soil Vap(SV) Ambient(A)	Sampling Equipment Info: Canister Serial #	Canister Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init	Standard TO-15 Reporting List	MA DEP APH	V7015 SIMS L (TCE - PCE - TCA)
-1	SG-2	SV	M133	6L	MC211	1/28/14	1146	-30	62	JRM	1/29/14	1105	-1.5	65	JRM	X		X
-2	IA-2	A	M003	6L	MC109	1/28/14	1150	-30	62	JRM	1/29/14	1147	-2	65	JRM	X		X
-3	SG-3	SV	M022	6L	MC210	1/28/14	1434	-30	62	JRM	1/29/14	1110	0	65	JRM	X		X
-4	IA-3	A	M165	6L	MC076	1/28/14	1439	-30	62	JRM	1/29/14	1415	-2	65	JRM	X		X
-5	Trip Blank	–	M144	6L	MC134	–	–	–	62	JRM	–	–	–	65	JRM	X		X

Turnaround Time (Business days)

Standard - 15 Days	X
10 Day	
5 Day	
3 Day	
2 Day	
1 Day	
Other	

Approved By:

Date:

Data Deliverable Information

Comm A	
Comm B	X
Full T1	
Other:	

Comments / Remarks

NYS Category B Full data Package need Following Reporting limits

<1.25 ug/M3 Trichloroethene (TCE)

< 3 ug/M3 Terrachloroethene (PCE)

<3 ug/M3 Trichloroethane (111 TCA)

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Joe McNanna	1/29/14 16:50	1 FX	2 FX	1/30/14 9:30	2
3		3	4		4
5		5	Custody Seal #		

Tel: (50) 4 1-6200
Fax: (50)4 1-7753

MC27979: Chain of Custody

Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: MC27979 **Client:** H2M **Immediate Client Services Action Required:** Yes

Date / Time Received: 1/30/2014 **Delivery Method:**

Project: MACBETH **No. Coolers:** **Airbill #'s:**

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	Infared gun	
3. Cooler media:	Ice (bag)	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☐	
2. Trip Blank listed on COC:	☐	☐	
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample rec'd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume rec'd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

-5 Trip Blank Summa cannister is M114 not M144 as listed on the COC .

Sample Receipt Summary - Problem Resolution

Accutest Job Number: MC27979

CSR: mattm **Response Date:** 1/30/2014

Response: Client Notified

Accutest Laboratories
V:508.481.6200

495 Technology Center West, Bldg One
F: 508.481.7753

Marlborough, MA
www/accutest.com

MC27979: Chain of Custody
Page 3 of 3

Summa Canister and Flow Controller Log

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY
Received: 01/30/14

SUMMA CANISTERS

Shipping							Receiving						
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
M133	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-1	02/06/14	JB	0			1
M003	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-2	02/06/14	JB	0			1
M022	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-3	02/06/14	JB		.4		1
M165	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-4	02/06/14	JB	0			1
M114	6	29.4	01/24/14	AA	CP1424	J26640.D	MC27979-5	02/06/14	JB	25			1

FLOW CONTROLLERS / OTHER

Shipping					Receiving			
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min	Equipment Type
MC076	01/24/14	AA	4.3	24	02/06/14	JB	5	Flow Controller
MC109	01/24/14	AA	4.3	24	02/06/14	JB	5.9	Flow Controller
MC134	01/24/14	AA	4.3	24	02/06/14	JB	6	Flow Controller
MC210	01/24/14	AA	4.3	24	02/06/14	JB	5.2	Flow Controller
MC211	01/24/14	AA	4.3	24	02/06/14	JB	5.6	Flow Controller

Accutest Bottle Order(s):
AA/01-24-14/H2M/AIR SAMPL

Prep Date	Room Temp(F)	Bar Pres "Hg
01/24/14	70	29.92

Internal Sample Tracking Chronicle

H2M Associates, Inc

Job No: MC27979

Macbeth, 617 Little Britain, New Windsor, NY
Project No: 2MAC0101

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27979-1	Collected: 29-JAN-14 11:05 By: JRM SG-2		Received: 30-JAN-14 By:			
MC27979-1	TO-15	13-FEB-14 07:26	JB			VTO15STD
MC27979-1	TO-15	13-FEB-14 11:46	JB			VTO15STD
MC27979-2	Collected: 29-JAN-14 11:47 By: JRM IA-2		Received: 30-JAN-14 By:			
MC27979-2	TO-15	13-FEB-14 12:29	JB			VTO15STD
MC27979-2	TO-15	14-FEB-14 09:14	JB			VTO15STD
MC27979-3	Collected: 29-JAN-14 11:10 By: JRM SG-3		Received: 30-JAN-14 By:			
MC27979-3	TO-15	13-FEB-14 08:16	JB			VTO15STD
MC27979-3	TO-15	13-FEB-14 09:12	JB			VTO15STD
MC27979-4	Collected: 29-JAN-14 14:15 By: JRM IA-3		Received: 30-JAN-14 By:			
MC27979-4	TO-15	13-FEB-14 10:35	JB			VTO15STD
MC27979-5	Collected: 29-JAN-14 00:00 By: JRM TRIP BLANK		Received: 30-JAN-14 By:			
MC27979-5	TO-15	13-FEB-14 05:14	JB			VTO15STD
MC27979-5	TO-15	13-FEB-14 06:41	JB			VTO15STD
MC27979-1A	Collected: 29-JAN-14 11:05 By: JRM SG-2		Received: 30-JAN-14 By:			
MC27979-1A	TO-15 BY SIM	13-FEB-14 21:09	AA			VTO15SIMSL
MC27979-2A	Collected: 29-JAN-14 11:47 By: JRM IA-2		Received: 30-JAN-14 By:			
MC27979-2A	TO-15 BY SIM	13-FEB-14 22:37	AA			VTO15SIMSL

Internal Sample Tracking Chronicle

H2M Associates, Inc

Job No: MC27979

Macbeth, 617 Little Britain, New Windsor, NY
Project No: 2MAC0101

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC27979-3A	Collected: 29-JAN-14 11:10 By: JRM SG-3			Received: 30-JAN-14	By:	
MC27979-3A	TO-15 BY SIM	13-FEB-14 23:21	AA			VTO15SIMSL
MC27979-4A	Collected: 29-JAN-14 14:15 By: JRM IA-3			Received: 30-JAN-14	By:	
MC27979-4A	TO-15 BY SIM	14-FEB-14 07:13	AA			VTO15SIMSL
MC27979-5A	Collected: 29-JAN-14 00:00 By: JRM TRIP BLANK			Received: 30-JAN-14	By:	
MC27979-5A	TO-15 BY SIM	14-FEB-14 00:05	AA			VTO15SIMSL

New England ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Initial Calibration RT/ISTD Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-MB	J26767.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-MB	J26767.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	97%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1382-MB	J26780.D	1	02/14/14	JB	n/a	n/a	MSJ1382

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-2

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	72%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-MB	J26612.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-MB	J26612.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	77%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-MB	J26718.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-MB	J26718.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	72%	50-129%

Method Blank Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSQ1121-MB	Q25750.D	1	02/13/14	AA	n/a	n/a	MSQ1121

The QC reported here applies to the following samples: **Method:** TO-15 BY SIM

MC27979-1A, MC27979-2A, MC27979-3A, MC27979-4A, MC27979-5A

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
79-01-6	Trichloroethylene	ND	0.0050	0.0022	ppbv		ND	0.027	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	105%	57-139%

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-BS	J26766B.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
67-64-1	Acetone	10	9.1	91	70-130
106-99-0	1,3-Butadiene	10	8.1	81	70-130
71-43-2	Benzene	10	8.1	81	70-130
75-27-4	Bromodichloromethane	10	8.9	89	70-130
75-25-2	Bromoform	10	8.3	83	70-130
74-83-9	Bromomethane	10	8.4	84	70-130
593-60-2	Bromoethene	10	8.2	82	70-130
100-44-7	Benzyl Chloride	10	8.7	87	70-130
75-15-0	Carbon disulfide	10	8.4	84	70-130
108-90-7	Chlorobenzene	10	8.1	81	70-130
75-00-3	Chloroethane	10	8.4	84	70-130
67-66-3	Chloroform	10	8.9	89	70-130
74-87-3	Chloromethane	10	9.0	90	70-130
107-05-1	3-Chloropropene	10	8.6	86	70-130
95-49-8	2-Chlorotoluene	10	8.2	82	70-130
56-23-5	Carbon tetrachloride	10	8.2	82	70-130
110-82-7	Cyclohexane	10	8.1	81	70-130
75-34-3	1,1-Dichloroethane	10	9.3	93	70-130
75-35-4	1,1-Dichloroethylene	10	8.0	80	70-130
106-93-4	1,2-Dibromoethane	10	8.3	83	70-130
107-06-2	1,2-Dichloroethane	10	8.6	86	70-130
78-87-5	1,2-Dichloropropane	10	8.2	82	70-130
123-91-1	1,4-Dioxane	10	9.1	91	70-130
75-71-8	Dichlorodifluoromethane	10	9.3	93	70-130
124-48-1	Dibromochloromethane	10	8.2	82	70-130
156-60-5	trans-1,2-Dichloroethylene	10	8.4	84	70-130
156-59-2	cis-1,2-Dichloroethylene	10	8.8	88	70-130
10061-01-5	cis-1,3-Dichloropropene	10	8.6	86	70-130
541-73-1	m-Dichlorobenzene	10	8.4	84	70-130
95-50-1	o-Dichlorobenzene	10	8.1	81	70-130
106-46-7	p-Dichlorobenzene	10	8.1	81	70-130
10061-02-6	trans-1,3-Dichloropropene	10	8.8	88	70-130
64-17-5	Ethanol	10	9.4	94	70-130
100-41-4	Ethylbenzene	10	8.1	81	70-130
141-78-6	Ethyl Acetate	10	7.5	75	70-130
622-96-8	4-Ethyltoluene	10	8.5	85	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1381-BS	J26766B.D	1	02/12/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
76-13-1	Freon 113	10	8.2	82	70-130
76-14-2	Freon 114	10	8.1	81	70-130
142-82-5	Heptane	10	8.6	86	70-130
87-68-3	Hexachlorobutadiene	10	7.2	72	70-130
110-54-3	Hexane	10	8.5	85	70-130
591-78-6	2-Hexanone	10	8.9	89	70-130
67-63-0	Isopropyl Alcohol	10	9.4	94	70-130
75-09-2	Methylene chloride	10	8.0	80	70-130
78-93-3	Methyl ethyl ketone	10	9.6	96	70-130
108-10-1	Methyl Isobutyl Ketone	10	9.1	91	70-130
1634-04-4	Methyl Tert Butyl Ether	10	8.7	87	70-130
115-07-1	Propylene	10	9.1	91	70-130
100-42-5	Styrene	10	8.3	83	70-130
71-55-6	1,1,1-Trichloroethane	10	8.7	87	70-130
79-34-5	1,1,2,2-Tetrachloroethane	10	8.3	83	70-130
79-00-5	1,1,2-Trichloroethane	10	8.6	86	70-130
120-82-1	1,2,4-Trichlorobenzene	10	8.0	80	70-130
95-63-6	1,2,4-Trimethylbenzene	10	8.5	85	70-130
108-67-8	1,3,5-Trimethylbenzene	10	8.2	82	70-130
540-84-1	2,2,4-Trimethylpentane	10	8.6	86	70-130
75-65-0	Tertiary Butyl Alcohol	10	9.6	96	70-130
127-18-4	Tetrachloroethylene	10	8.2	82	70-130
109-99-9	Tetrahydrofuran	10	9.0	90	70-130
108-88-3	Toluene	10	8.2	82	70-130
75-69-4	Trichlorofluoromethane	10	8.1	81	70-130
75-01-4	Vinyl chloride	10	8.8	88	70-130
108-05-4	Vinyl Acetate	10	8.7	87	70-130
	m,p-Xylene	20	16.4	82	70-130
95-47-6	o-Xylene	10	8.2	82	70-130
1330-20-7	Xylenes (total)	30	24.6	82	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	114%	50-129%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1382-BS	J26779A.D	1	02/14/14	JB	n/a	n/a	MSJ1382

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-2

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
64-17-5	Ethanol	10	11.4	114	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	76%	50-129%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-BS	J26611A.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
67-64-1	Acetone	10	9.7	97	70-130
106-99-0	1,3-Butadiene	10	10.7	107	70-130
71-43-2	Benzene	10	9.7	97	70-130
75-27-4	Bromodichloromethane	10	9.8	98	70-130
75-25-2	Bromoform	10	10.5	105	70-130
74-83-9	Bromomethane	10	10.2	102	70-130
593-60-2	Bromoethene	10	10.3	103	70-130
100-44-7	Benzyl Chloride	10	11.4	114	70-130
75-15-0	Carbon disulfide	10	10.3	103	70-130
108-90-7	Chlorobenzene	10	8.9	89	70-130
75-00-3	Chloroethane	10	10.2	102	70-130
67-66-3	Chloroform	10	10.3	103	70-130
74-87-3	Chloromethane	10	10	100	70-130
107-05-1	3-Chloropropene	10	11.2	112	70-130
95-49-8	2-Chlorotoluene	10	11.8	118	70-130
56-23-5	Carbon tetrachloride	10	9.9	99	70-130
110-82-7	Cyclohexane	10	9.3	93	70-130
75-34-3	1,1-Dichloroethane	10	10.7	107	70-130
75-35-4	1,1-Dichloroethylene	10	10.2	102	70-130
106-93-4	1,2-Dibromoethane	10	9.6	96	70-130
107-06-2	1,2-Dichloroethane	10	10.5	105	70-130
78-87-5	1,2-Dichloropropane	10	8.2	82	70-130
123-91-1	1,4-Dioxane	10	9.4	94	70-130
75-71-8	Dichlorodifluoromethane	10	10.1	101	70-130
124-48-1	Dibromochloromethane	10	10.2	102	70-130
156-60-5	trans-1,2-Dichloroethylene	10	10.6	106	70-130
156-59-2	cis-1,2-Dichloroethylene	10	10.2	102	70-130
10061-01-5	cis-1,3-Dichloropropene	10	9.0	90	70-130
541-73-1	m-Dichlorobenzene	10	12.7	127	70-130
95-50-1	o-Dichlorobenzene	10	12.8	128	70-130
106-46-7	p-Dichlorobenzene	10	12.6	126	70-130
10061-02-6	trans-1,3-Dichloropropene	10	9.1	91	70-130
64-17-5	Ethanol	10	10.5	105	70-130
100-41-4	Ethylbenzene	10	8.8	88	70-130
141-78-6	Ethyl Acetate	10	9.6	96	70-130
622-96-8	4-Ethyltoluene	10	12.0	120	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-BS	J26611A.D	1	01/20/14	AA	n/a	n/a	MSJ1375

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1375-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
76-13-1	Freon 113	10	10.3	103	70-130
76-14-2	Freon 114	10	10.1	101	70-130
142-82-5	Heptane	10	7.8	78	70-130
87-68-3	Hexachlorobutadiene	10	11.9	119	70-130
110-54-3	Hexane	10	9.4	94	70-130
591-78-6	2-Hexanone	10	9.3	93	70-130
67-63-0	Isopropyl Alcohol	10	9.0	90	70-130
75-09-2	Methylene chloride	10	9.6	96	70-130
78-93-3	Methyl ethyl ketone	10	9.6	96	70-130
108-10-1	Methyl Isobutyl Ketone	10	7.9	79	70-130
1634-04-4	Methyl Tert Butyl Ether	10	9.6	96	70-130
115-07-1	Propylene	10	9.7	97	70-130
100-42-5	Styrene	10	8.9	89	70-130
71-55-6	1,1,1-Trichloroethane	10	10.5	105	70-130
79-34-5	1,1,2,2-Tetrachloroethane	10	11.9	119	70-130
79-00-5	1,1,2-Trichloroethane	10	8.0	80	70-130
120-82-1	1,2,4-Trichlorobenzene	10	11.5	115	70-130
95-63-6	1,2,4-Trimethylbenzene	10	11.9	119	70-130
108-67-8	1,3,5-Trimethylbenzene	10	11.8	118	70-130
540-84-1	2,2,4-Trimethylpentane	10	8.7	87	70-130
75-65-0	Tertiary Butyl Alcohol	10	10	100	70-130
127-18-4	Tetrachloroethylene	10	10.3	103	70-130
109-99-9	Tetrahydrofuran	10	9.6	96	70-130
108-88-3	Toluene	10	8.3	83	70-130
75-69-4	Trichlorofluoromethane	10	10.6	106	70-130
75-01-4	Vinyl chloride	10	10.2	102	70-130
108-05-4	Vinyl Acetate	10	9.2	92	70-130
	m,p-Xylene	20	17.6	88	70-130
95-47-6	o-Xylene	10	8.7	87	70-130
1330-20-7	Xylenes (total)	30	26.3	88	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	86%	50-129%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-BS	J26715A.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
67-64-1	Acetone	10	12.2	122	70-130
106-99-0	1,3-Butadiene	10	12.6	126	70-130
71-43-2	Benzene	10	11.9	119	70-130
75-27-4	Bromodichloromethane	10	12.1	121	70-130
75-25-2	Bromoform	10	10.9	109	70-130
74-83-9	Bromomethane	10	11.7	117	70-130
593-60-2	Bromoethene	10	11.7	117	70-130
100-44-7	Benzyl Chloride	10	11.1	111	70-130
75-15-0	Carbon disulfide	10	11.7	117	70-130
108-90-7	Chlorobenzene	10	9.9	99	70-130
75-00-3	Chloroethane	10	12.0	120	70-130
67-66-3	Chloroform	10	12.1	121	70-130
74-87-3	Chloromethane	10	11.4	114	70-130
107-05-1	3-Chloropropene	10	13.2	132* [a]	70-130
95-49-8	2-Chlorotoluene	10	12.5	125	70-130
56-23-5	Carbon tetrachloride	10	11.4	114	70-130
110-82-7	Cyclohexane	10	11.3	113	70-130
75-34-3	1,1-Dichloroethane	10	12.7	127	70-130
75-35-4	1,1-Dichloroethylene	10	11.5	115	70-130
106-93-4	1,2-Dibromoethane	10	10.7	107	70-130
107-06-2	1,2-Dichloroethane	10	11.9	119	70-130
78-87-5	1,2-Dichloropropane	10	10.2	102	70-130
123-91-1	1,4-Dioxane	10	8.8	88	70-130
75-71-8	Dichlorodifluoromethane	10	11.5	115	70-130
124-48-1	Dibromochloromethane	10	11.0	110	70-130
156-60-5	trans-1,2-Dichloroethylene	10	12.1	121	70-130
156-59-2	cis-1,2-Dichloroethylene	10	11.9	119	70-130
10061-01-5	cis-1,3-Dichloropropene	10	11.2	112	70-130
541-73-1	m-Dichlorobenzene	10	12.7	127	70-130
95-50-1	o-Dichlorobenzene	10	12.2	122	70-130
106-46-7	p-Dichlorobenzene	10	12.7	127	70-130
10061-02-6	trans-1,3-Dichloropropene	10	11.7	117	70-130
100-41-4	Ethylbenzene	10	11.2	112	70-130
141-78-6	Ethyl Acetate	10	12.3	123	70-130
622-96-8	4-Ethyltoluene	10	12.8	128	70-130
76-13-1	Freon 113	10	11.5	115	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-BS	J26715A.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here applies to the following samples: **Method:** TO-15

MSJ1379-SCC

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
76-14-2	Freon 114	10	11.3	113	70-130
142-82-5	Heptane	10	9.9	99	70-130
87-68-3	Hexachlorobutadiene	10	12.3	123	70-130
110-54-3	Hexane	10	11.0	110	70-130
591-78-6	2-Hexanone	10	8.3	83	70-130
67-63-0	Isopropyl Alcohol	10	10.1	101	70-130
75-09-2	Methylene chloride	10	11.0	110	70-130
78-93-3	Methyl ethyl ketone	10	11.6	116	70-130
108-10-1	Methyl Isobutyl Ketone	10	9.1	91	70-130
1634-04-4	Methyl Tert Butyl Ether	10	12.2	122	70-130
115-07-1	Propylene	10	11.6	116	70-130
100-42-5	Styrene	10	9.8	98	70-130
71-55-6	1,1,1-Trichloroethane	10	12.2	122	70-130
79-34-5	1,1,2,2-Tetrachloroethane	10	11.9	119	70-130
79-00-5	1,1,2-Trichloroethane	10	10	100	70-130
120-82-1	1,2,4-Trichlorobenzene	10	11.1	111	70-130
95-63-6	1,2,4-Trimethylbenzene	10	12.1	121	70-130
108-67-8	1,3,5-Trimethylbenzene	10	15.5	155* [a]	70-130
540-84-1	2,2,4-Trimethylpentane	10	10.8	108	70-130
75-65-0	Tertiary Butyl Alcohol	10	11.0	110	70-130
127-18-4	Tetrachloroethylene	10	11.3	113	70-130
109-99-9	Tetrahydrofuran	10	11.6	116	70-130
108-88-3	Toluene	10	11.1	111	70-130
75-69-4	Trichlorofluoromethane	10	11.9	119	70-130
75-01-4	Vinyl chloride	10	11.4	114	70-130
108-05-4	Vinyl Acetate	10	11.5	115	70-130
	m,p-Xylene	20	21.3	107	70-130
95-47-6	o-Xylene	10	11.3	113	70-130
1330-20-7	Xylenes (total)	30	32.5	108	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	112%	50-129%

(a) Outside control limits. Associated samples are non-detect for this compound.

* = Outside of Control Limits.

Blank Spike Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSQ1121-BS	Q25749B.D	1	02/13/14	AA	n/a	n/a	MSQ1121

The QC reported here applies to the following samples: **Method:** TO-15 BY SIM

MC27979-1A, MC27979-2A, MC27979-3A, MC27979-4A, MC27979-5A

CAS No.	Compound	Spike ppbv	BSP ppbv	BSP %	Limits
79-01-6	Trichloroethylene	0.5	0.42	84	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	57-139%

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-4DUP	J26778.D	1	02/13/14	JB	n/a	n/a	MSJ1381
MC27979-4	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	MC27979-4 ppbv	Q	DUP ppbv	Q	RPD	Limits
67-64-1	Acetone	7.5		7.5		0	25
106-99-0	1,3-Butadiene	ND		ND		nc	25
71-43-2	Benzene	0.47	J	0.50		6	25
75-27-4	Bromodichloromethane	ND		ND		nc	25
75-25-2	Bromoform	ND		ND		nc	25
74-83-9	Bromomethane	ND		ND		nc	25
593-60-2	Bromoethene	ND		ND		nc	20
100-44-7	Benzyl Chloride	ND		ND		nc	25
75-15-0	Carbon disulfide	ND		ND		nc	25
108-90-7	Chlorobenzene	ND		ND		nc	25
75-00-3	Chloroethane	ND		ND		nc	25
67-66-3	Chloroform	ND		ND		nc	25
74-87-3	Chloromethane	0.58		0.71		20	25
107-05-1	3-Chloropropene	ND		ND		nc	25
95-49-8	2-Chlorotoluene	ND		ND		nc	25
56-23-5	Carbon tetrachloride	ND		ND		nc	25
110-82-7	Cyclohexane	ND		ND		nc	25
75-34-3	1,1-Dichloroethane	ND		ND		nc	25
75-35-4	1,1-Dichloroethylene	ND		ND		nc	25
106-93-4	1,2-Dibromoethane	ND		ND		nc	25
107-06-2	1,2-Dichloroethane	ND		ND		nc	25
78-87-5	1,2-Dichloropropane	ND		ND		nc	25
123-91-1	1,4-Dioxane	ND		ND		nc	25
75-71-8	Dichlorodifluoromethane	0.47	J	0.55		16	25
124-48-1	Dibromochloromethane	ND		ND		nc	25
156-60-5	trans-1,2-Dichloroethylene	ND		ND		nc	25
156-59-2	cis-1,2-Dichloroethylene	ND		ND		nc	25
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	25
541-73-1	m-Dichlorobenzene	ND		ND		nc	25
95-50-1	o-Dichlorobenzene	ND		ND		nc	25
106-46-7	p-Dichlorobenzene	ND		ND		nc	25
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	25
64-17-5	Ethanol	ND		8.0		200* [a]	25
100-41-4	Ethylbenzene	ND		ND		nc	25
141-78-6	Ethyl Acetate	ND		ND		nc	25
622-96-8	4-Ethyltoluene	ND		ND		nc	25

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-4DUP	J26778.D	1	02/13/14	JB	n/a	n/a	MSJ1381
MC27979-4	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

CAS No.	Compound	MC27979-4 ppbv	Q	DUP ppbv	Q	RPD	Limits
76-13-1	Freon 113	ND		ND		nc	25
76-14-2	Freon 114	ND		ND		nc	25
142-82-5	Heptane	0.47	J	0.53		12	25
87-68-3	Hexachlorobutadiene	ND		ND		nc	25
110-54-3	Hexane	ND		ND		nc	25
591-78-6	2-Hexanone	ND		ND		nc	25
67-63-0	Isopropyl Alcohol	ND		2.6		200* [a]	25
75-09-2	Methylene chloride	0.21	J	0.23	J	9	25
78-93-3	Methyl ethyl ketone	0.80		0.84		5	25
108-10-1	Methyl Isobutyl Ketone	ND		ND		nc	25
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	25
115-07-1	Propylene	ND		ND		nc	25
100-42-5	Styrene	ND		ND		nc	25
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	25
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	25
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	25
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	25
95-63-6	1,2,4-Trimethylbenzene	ND		ND		nc	25
108-67-8	1,3,5-Trimethylbenzene	ND		ND		nc	25
540-84-1	2,2,4-Trimethylpentane	ND		ND		nc	25
75-65-0	Tertiary Butyl Alcohol	ND		ND		nc	25
127-18-4	Tetrachloroethylene	ND		ND		nc	25
109-99-9	Tetrahydrofuran	ND		ND		nc	25
108-88-3	Toluene	5.2		5.1		2	25
75-69-4	Trichlorofluoromethane	0.39	J	0.44	J	12	25
75-01-4	Vinyl chloride	ND		ND		nc	25
108-05-4	Vinyl Acetate	1.3		1.3		0	25
	m,p-Xylene	ND		ND		nc	25
95-47-6	o-Xylene	ND		ND		nc	25
1330-20-7	Xylenes (total)	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	MC27979-4	Limits
460-00-4	4-Bromofluorobenzene	78%	82%	50-129%

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-4DUP	J26778.D	1	02/13/14	JB	n/a	n/a	MSJ1381
MC27979-4	J26775.D	1	02/13/14	JB	n/a	n/a	MSJ1381

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-1, MC27979-2, MC27979-3, MC27979-4, MC27979-5

(a) High RPD due to possible matrix interference and/or sample non-homogeneity.

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC28079-1DUP	J26783.D	1	02/14/14	JB	n/a	n/a	MSJ1382
MC28079-1	J26782.D	1	02/14/14	JB	n/a	n/a	MSJ1382

The QC reported here applies to the following samples: **Method:** TO-15

MC27979-2

CAS No.	Compound	MC28079-1 ppbv	Q	DUP ppbv	Q	RPD	Limits
64-17-5	Ethanol	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	MC28079-1	Limits
460-00-4	4-Bromofluorobenzene	124%	78%	50-129%

* = Outside of Control Limits.

Duplicate Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC27979-1ADUP	Q25754.D	1	02/13/14	AA	n/a	n/a	MSQ1121
MC27979-1A	Q25753.D	1	02/13/14	AA	n/a	n/a	MSQ1121

The QC reported here applies to the following samples: **Method:** TO-15 BY SIM

MC27979-1A, MC27979-2A, MC27979-3A, MC27979-4A, MC27979-5A

CAS No.	Compound	MC27979-1ADUP ppbv	Q	ppbv	Q	RPD	Limits
79-01-6	Trichloroethylene	0.85		0.85		0	25

CAS No.	Surrogate Recoveries	DUP	MC27979-1A	Limits
460-00-4	4-Bromofluorobenzene	104%	103%	57-139%

* = Outside of Control Limits.

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-SCC	J26640.D	1	01/21/14	AA	n/a	n/a	MSJ1375

The QC reported here (Summa M227) applies to the following samples: **Method:** TO-15

Batch CP1424 cleaned 01/17/14: MC27979-1(M133), MC27979-2(M003), MC27979-3(M022), MC27979-4(M165), MC27979-5(M114)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
64-17-5	Ethanol	ND	0.50	0.13	ppbv		ND	0.94	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1375-SCC	J26640.D	1	01/21/14	AA	n/a	n/a	MSJ1375

The QC reported here (Summa M227) applies to the following samples: **Method:** TO-15

Batch CP1424 cleaned 01/17/14: MC27979-1(M133), MC27979-2(M003), MC27979-3(M022), MC27979-4(M165), MC27979-5(M114)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	112%	50-129%

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-SCC	J26719.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here (Summa M232) applies to the following samples: **Method:** TO-15

Batch CP1426 cleaned 01/20/14: MC27979-2(M241)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
67-64-1	Acetone	ND	0.50	0.17	ppbv		ND	1.2	ug/m3
106-99-0	1,3-Butadiene	ND	0.50	0.13	ppbv		ND	1.1	ug/m3
71-43-2	Benzene	ND	0.50	0.091	ppbv		ND	1.6	ug/m3
75-27-4	Bromodichloromethane	ND	0.50	0.11	ppbv		ND	3.3	ug/m3
75-25-2	Bromoform	ND	0.50	0.077	ppbv		ND	5.2	ug/m3
74-83-9	Bromomethane	ND	0.50	0.10	ppbv		ND	1.9	ug/m3
593-60-2	Bromoethene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
100-44-7	Benzyl Chloride	ND	0.50	0.39	ppbv		ND	2.6	ug/m3
75-15-0	Carbon disulfide	ND	0.50	0.057	ppbv		ND	1.6	ug/m3
108-90-7	Chlorobenzene	ND	0.50	0.13	ppbv		ND	2.3	ug/m3
75-00-3	Chloroethane	ND	0.20	0.14	ppbv		ND	0.53	ug/m3
67-66-3	Chloroform	ND	0.50	0.10	ppbv		ND	2.4	ug/m3
74-87-3	Chloromethane	ND	0.50	0.074	ppbv		ND	1.0	ug/m3
107-05-1	3-Chloropropene	ND	0.50	0.063	ppbv		ND	1.6	ug/m3
95-49-8	2-Chlorotoluene	ND	0.50	0.067	ppbv		ND	2.6	ug/m3
56-23-5	Carbon tetrachloride	ND	0.20	0.092	ppbv		ND	1.3	ug/m3
110-82-7	Cyclohexane	ND	0.50	0.082	ppbv		ND	1.7	ug/m3
75-34-3	1,1-Dichloroethane	ND	0.20	0.080	ppbv		ND	0.81	ug/m3
75-35-4	1,1-Dichloroethylene	ND	0.20	0.093	ppbv		ND	0.79	ug/m3
106-93-4	1,2-Dibromoethane	ND	0.50	0.14	ppbv		ND	3.8	ug/m3
107-06-2	1,2-Dichloroethane	ND	0.20	0.11	ppbv		ND	0.81	ug/m3
78-87-5	1,2-Dichloropropane	ND	0.50	0.086	ppbv		ND	2.3	ug/m3
123-91-1	1,4-Dioxane	ND	0.50	0.16	ppbv		ND	1.8	ug/m3
75-71-8	Dichlorodifluoromethane	ND	0.50	0.034	ppbv		ND	2.5	ug/m3
124-48-1	Dibromochloromethane	ND	0.50	0.076	ppbv		ND	4.3	ug/m3
156-60-5	trans-1,2-Dichloroethylene	ND	0.20	0.071	ppbv		ND	0.79	ug/m3
156-59-2	cis-1,2-Dichloroethylene	ND	0.20	0.079	ppbv		ND	0.79	ug/m3
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.11	ppbv		ND	2.3	ug/m3
541-73-1	m-Dichlorobenzene	ND	0.50	0.27	ppbv		ND	3.0	ug/m3
95-50-1	o-Dichlorobenzene	ND	0.50	0.15	ppbv		ND	3.0	ug/m3
106-46-7	p-Dichlorobenzene	ND	0.50	0.31	ppbv		ND	3.0	ug/m3
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.18	ppbv		ND	2.3	ug/m3
100-41-4	Ethylbenzene	ND	0.50	0.089	ppbv		ND	2.2	ug/m3
141-78-6	Ethyl Acetate	ND	0.50	0.12	ppbv		ND	1.8	ug/m3
622-96-8	4-Ethyltoluene	ND	0.50	0.062	ppbv		ND	2.5	ug/m3
76-13-1	Freon 113	ND	0.50	0.091	ppbv		ND	3.8	ug/m3

Summa Cleaning Certification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSJ1379-SCC	J26719.D	1	02/03/14	AA	n/a	n/a	MSJ1379

The QC reported here (Summa M232) applies to the following samples: **Method:** TO-15

Batch CP1426 cleaned 01/20/14: MC27979-2(M241)

CAS No.	Compound	Result	RL	MDL	Units	Q	Result	RL	Units
76-14-2	Freon 114	ND	0.50	0.087	ppbv		ND	3.5	ug/m3
142-82-5	Heptane	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
87-68-3	Hexachlorobutadiene	ND	0.50	0.43	ppbv		ND	5.3	ug/m3
110-54-3	Hexane	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
591-78-6	2-Hexanone	ND	0.50	0.12	ppbv		ND	2.0	ug/m3
67-63-0	Isopropyl Alcohol	ND	0.50	0.10	ppbv		ND	1.2	ug/m3
75-09-2	Methylene chloride	ND	0.50	0.088	ppbv		ND	1.7	ug/m3
78-93-3	Methyl ethyl ketone	ND	0.50	0.15	ppbv		ND	1.5	ug/m3
108-10-1	Methyl Isobutyl Ketone	ND	0.50	0.10	ppbv		ND	2.0	ug/m3
1634-04-4	Methyl Tert Butyl Ether	ND	0.50	0.090	ppbv		ND	1.8	ug/m3
115-07-1	Propylene	ND	0.50	0.048	ppbv		ND	0.86	ug/m3
100-42-5	Styrene	ND	0.50	0.075	ppbv		ND	2.1	ug/m3
71-55-6	1,1,1-Trichloroethane	ND	0.20	0.080	ppbv		ND	1.1	ug/m3
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.20	0.075	ppbv		ND	1.4	ug/m3
79-00-5	1,1,2-Trichloroethane	ND	0.20	0.12	ppbv		ND	1.1	ug/m3
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.50	ppbv		ND	3.7	ug/m3
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.068	ppbv		ND	2.5	ug/m3
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.067	ppbv		ND	2.5	ug/m3
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.084	ppbv		ND	2.3	ug/m3
75-65-0	Tertiary Butyl Alcohol	ND	0.50	0.085	ppbv		ND	1.5	ug/m3
127-18-4	Tetrachloroethylene	ND	0.20	0.098	ppbv		ND	1.4	ug/m3
109-99-9	Tetrahydrofuran	ND	0.50	0.14	ppbv		ND	1.5	ug/m3
108-88-3	Toluene	ND	0.50	0.11	ppbv		ND	1.9	ug/m3
75-69-4	Trichlorofluoromethane	ND	0.50	0.088	ppbv		ND	2.8	ug/m3
75-01-4	Vinyl chloride	ND	0.20	0.088	ppbv		ND	0.51	ug/m3
108-05-4	Vinyl Acetate	ND	0.50	0.11	ppbv		ND	1.8	ug/m3
	m,p-Xylene	ND	0.50	0.20	ppbv		ND	2.2	ug/m3
95-47-6	o-Xylene	ND	0.50	0.11	ppbv		ND	2.2	ug/m3
1330-20-7	Xylenes (total)	ND	0.50	0.11	ppbv		ND	2.2	ug/m3

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	71%	50-129%

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1373-BFB	**Injection Date:**	01/16/14
Lab File ID:	J26574.D	**Injection Time:**	19:32
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	9132	16.5		Pass
75	30.0 - 66.0% of mass 95	24859	44.9		Pass
95	Base peak, 100% relative abundance	55304	100.0		Pass
96	5.0 - 9.0% of mass 95	3894	7.04		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	45771	82.8		Pass
175	4.0 - 9.0% of mass 174	3272	5.92	(7.15) [a]	Pass
176	93.0 - 101.0% of mass 174	44208	79.9	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	2998	5.42	(6.78) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1373-IC1373	J26578.D	01/16/14	22:27	02:55	Initial cal 40
MSJ1373-IC1373	J26579.D	01/16/14	23:12	03:40	Initial cal 20
MSJ1373-ICC1373	J26580.D	01/16/14	23:54	04:22	Initial cal 10
MSJ1373-IC1373	J26581.D	01/17/14	00:37	05:05	Initial cal 5
MSJ1373-IC1373	J26582.D	01/17/14	01:21	05:49	Initial cal 2
MSJ1373-IC1373	J26583.D	01/17/14	07:55	12:23	Initial cal 0.5
MSJ1373-IC1373	J26584.D	01/17/14	08:37	13:05	Initial cal 0.2

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1375-BFB
Lab File ID: J26611.D
Instrument ID: GCMSJ
Injection Date: 01/20/14
Injection Time: 13:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	8118	16.7		Pass
75	30.0 - 66.0% of mass 95	21712	44.6		Pass
95	Base peak, 100% relative abundance	48680	100.0		Pass
96	5.0 - 9.0% of mass 95	3316	6.81		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	49112	100.9		Pass
175	4.0 - 9.0% of mass 174	3704	7.61	(7.54) [a]	Pass
176	93.0 - 101.0% of mass 174	48072	98.8	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	3165	6.50	(6.58) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1375-BS	J26611A.D	01/20/14	13:54	00:00	Blank Spike
MSJ1375-CC1373	J26611.D	01/20/14	13:54	00:00	Continuing cal 10
MSJ1375-SCC	J26612A.D	01/20/14	15:30	01:36	Summa Cleaning Certification
MSJ1375-MB	J26612.D	01/20/14	15:30	01:36	Method Blank
ZZZZZZ	J26613.D	01/20/14	16:31	02:37	(unrelated sample)
ZZZZZZ	J26614.D	01/20/14	17:26	03:32	(unrelated sample)
ZZZZZZ	J26615.D	01/20/14	18:46	04:52	(unrelated sample)
ZZZZZZ	J26616.D	01/20/14	19:28	05:34	(unrelated sample)
ZZZZZZ	J26618.D	01/20/14	20:56	07:02	(unrelated sample)
MC27621-1	J26620.D	01/20/14	22:22	08:28	(used for QC only; not part of job MC27979)
ZZZZZZ	J26622.D	01/20/14	23:50	09:56	(unrelated sample)
ZZZZZZ	J26623.D	01/21/14	00:33	10:39	(unrelated sample)
ZZZZZZ	J26624.D	01/21/14	01:19	11:25	(unrelated sample)
ZZZZZZ	J26625.D	01/21/14	02:02	12:08	(unrelated sample)
ZZZZZZ	J26626.D	01/21/14	02:44	12:50	(unrelated sample)
ZZZZZZ	J26627.D	01/21/14	03:27	13:33	(unrelated sample)
ZZZZZZ	J26628.D	01/21/14	04:09	14:15	(unrelated sample)
ZZZZZZ	J26629.D	01/21/14	04:51	14:57	(unrelated sample)
ZZZZZZ	J26632.D	01/21/14	07:06	17:12	(unrelated sample)
ZZZZZZ	J26633.D	01/21/14	07:50	17:56	(unrelated sample)
MC27621-1DUP	J26634.D	01/21/14	08:34	18:40	Duplicate
ZZZZZZ	J26635.D	01/21/14	09:19	19:25	(unrelated sample)
ZZZZZZ	J26636.D	01/21/14	10:03	20:09	(unrelated sample)
ZZZZZZ	J26637.D	01/21/14	10:49	20:55	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1375-BFB	**Injection Date:**	01/20/14
Lab File ID:	J26611.D	**Injection Time:**	13:54
Instrument ID:	GCMSJ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	J26638.D	01/21/14	11:46	21:52	(unrelated sample)
ZZZZZZ	J26639.D	01/21/14	12:31	22:37	(unrelated sample)
MSJ1375-SCC	J26640.D	01/21/14	13:15	23:21	Summa Cleaning Certification

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1379-BFB	**Injection Date:**	02/03/14
Lab File ID:	J26715.D	**Injection Time:**	15:52
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	10167	16.7		Pass
75	30.0 - 66.0% of mass 95	27840	45.6		Pass
95	Base peak, 100% relative abundance	61024	100.0		Pass
96	5.0 - 9.0% of mass 95	3970	6.51		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	59912	98.2		Pass
175	4.0 - 9.0% of mass 174	4282	7.02	(7.15) [a]	Pass
176	93.0 - 101.0% of mass 174	58024	95.1	(96.8) [a]	Pass
177	5.0 - 9.0% of mass 176	3796	6.22	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1379-BS	J26715A.D	02/03/14	15:52	00:00	Blank Spike
MSJ1379-CC1373	J26715.D	02/03/14	15:52	00:00	Continuing cal 10
MSJ1379-SCC	J26718A.D	02/03/14	19:12	03:20	Summa Cleaning Certification
MSJ1379-MB	J26718.D	02/03/14	19:12	03:20	Method Blank
MSJ1379-SCC	J26719.D	02/03/14	19:58	04:06	Summa Cleaning Certification
ZZZZZZ	J26720.D	02/03/14	20:40	04:48	(unrelated sample)
ZZZZZZ	J26721.D	02/03/14	21:24	05:32	(unrelated sample)
ZZZZZZ	J26722.D	02/03/14	22:06	06:14	(unrelated sample)
ZZZZZZ	J26723.D	02/03/14	22:48	06:56	(unrelated sample)
ZZZZZZ	J26724.D	02/03/14	23:31	07:39	(unrelated sample)
MSJ1379-SCC	J26725.D	02/04/14	00:15	08:23	Summa Cleaning Certification
MSJ1379-SCC	J26726.D	02/04/14	00:59	09:07	Summa Cleaning Certification
ZZZZZZ	J26729.D	02/04/14	08:17	16:25	(unrelated sample)
ZZZZZZ	J26731.D	02/04/14	10:26	18:34	(unrelated sample)
ZZZZZZ	J26732.D	02/04/14	11:09	19:17	(unrelated sample)
MC28074-1	J26733.D	02/04/14	11:53	20:01	(used for QC only; not part of job MC27979)
ZZZZZZ	J26734.D	02/04/14	12:36	20:44	(unrelated sample)
ZZZZZZ	J26735.D	02/04/14	13:18	21:26	(unrelated sample)
MC28074-1DUP	J26736.D	02/04/14	14:09	22:17	Duplicate
ZZZZZZ	J26737.D	02/04/14	14:51	22:59	(unrelated sample)
ZZZZZZ	J26738.D	02/04/14	15:33	23:41	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1381-BFB	**Injection Date:**	02/11/14
Lab File ID:	J26756.D	**Injection Time:**	14:15
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	21120	15.2		Pass
75	30.0 - 66.0% of mass 95	58747	42.3		Pass
95	Base peak, 100% relative abundance	139008	100.0		Pass
96	5.0 - 9.0% of mass 95	9801	7.05		Pass
173	Less than 2.0% of mass 174	416	0.30	(0.37) [a]	Pass
174	50.0 - 120.0% of mass 95	112565	81.0		Pass
175	4.0 - 9.0% of mass 174	7898	5.68	(7.02) [a]	Pass
176	93.0 - 101.0% of mass 174	110165	79.3	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	7300	5.25	(6.63) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1381-IC1381	J26757.D	02/11/14	15:45	01:30	Initial cal 0.5
MSJ1381-IC1381	J26758.D	02/11/14	16:27	02:12	Initial cal 0.2
MSJ1381-IC1381	J26759.D	02/11/14	17:12	02:57	Initial cal 40
MSJ1381-IC1381	J26760.D	02/11/14	17:55	03:40	Initial cal 20
MSJ1381-ICC1381	J26761.D	02/11/14	18:38	04:23	Initial cal 10
MSJ1381-IC1381	J26762.D	02/11/14	19:21	05:06	Initial cal 5
MSJ1381-IC1381	J26763.D	02/11/14	20:04	05:49	Initial cal 2

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1381-BFB1	**Injection Date:**	02/12/14
Lab File ID:	J26766.D	**Injection Time:**	13:34
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	35008	14.7		Pass
75	30.0 - 66.0% of mass 95	102752	43.2		Pass
95	Base peak, 100% relative abundance	238016	100.0		Pass
96	5.0 - 9.0% of mass 95	14563	6.12		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	200064	84.1		Pass
175	4.0 - 9.0% of mass 174	14381	6.04	(7.19) [a]	Pass
176	93.0 - 101.0% of mass 174	194240	81.6	(97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	12505	5.25	(6.44) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1381-CC1381	J26766.D	02/12/14	13:34	00:00	Continuing cal 10
MSJ1381-BS	J26766B.D	02/12/14	13:34	00:00	Blank Spike
MSJ1381-ICV1381	J26766A.D	02/12/14	13:34	00:00	Initial cal verification 10
MSJ1381-MB	J26767.D	02/12/14	14:39	01:05	Method Blank
MC27979-5	J26769.D	02/13/14	05:14	15:40	TRIP BLANK
MC27979-5	J26770.D	02/13/14	06:41	17:07	TRIP BLANK
MC27979-1	J26771.D	02/13/14	07:26	17:52	SG-2
MC27979-3	J26772.D	02/13/14	08:16	18:42	SG-3
MC27979-3	J26773.D	02/13/14	09:12	19:38	SG-3
MC27979-4	J26775.D	02/13/14	10:35	21:01	IA-3
MC27979-1	J26776.D	02/13/14	11:46	22:12	SG-2
MC27979-2	J26777.D	02/13/14	12:29	22:55	IA-2
MC27979-4DUP	J26778.D	02/13/14	13:11	23:37	Duplicate

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSJ1382-BFB	**Injection Date:**	02/14/14
Lab File ID:	J26779.D	**Injection Time:**	07:08
Instrument ID:	GCMSJ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	17600	17.6		Pass
75	30.0 - 66.0% of mass 95	47288	47.3		Pass
95	Base peak, 100% relative abundance	99896	100.0		Pass
96	5.0 - 9.0% of mass 95	6953	6.96		Pass
173	Less than 2.0% of mass 174	531	0.53	(0.69) [a]	Pass
174	50.0 - 120.0% of mass 95	76600	76.7		Pass
175	4.0 - 9.0% of mass 174	5282	5.29	(6.90) [a]	Pass
176	93.0 - 101.0% of mass 174	74928	75.0	(97.8) [a]	Pass
177	5.0 - 9.0% of mass 176	4810	4.82	(6.42) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSJ1382-CC1381	J26779.D	02/14/14	07:08	00:00	Continuing cal 10
MSJ1382-BS	J26779A.D	02/14/14	07:08	00:00	Blank Spike
MSJ1382-MB	J26780.D	02/14/14	08:24	01:16	Method Blank
MC27979-2	J26781.D	02/14/14	09:14	02:06	IA-2
MC28079-1	J26782.D	02/14/14	10:24	03:16	(used for QC only; not part of job MC27979)
MC28079-1DUP	J26783.D	02/14/14	11:08	04:00	Duplicate
ZZZZZZ	J26784.D	02/14/14	11:52	04:44	(unrelated sample)
ZZZZZZ	J26785.D	02/14/14	12:46	05:38	(unrelated sample)
ZZZZZZ	J26786.D	02/14/14	13:30	06:22	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample:	MSQ1121-BFB	**Injection Date:**	02/13/14
Lab File ID:	Q25740.D	**Injection Time:**	10:54
Instrument ID:	GCMSQ		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	8.0 - 40.0% of mass 95	68432	19.2		Pass
75	30.0 - 66.0% of mass 95	171115	48.0		Pass
95	Base peak, 100% relative abundance	356288	100.0		Pass
96	5.0 - 9.0% of mass 95	24069	6.76		Pass
173	Less than 2.0% of mass 174	3096	0.87	(1.18) [a]	Pass
174	50.0 - 120.0% of mass 95	262997	73.8		Pass
175	4.0 - 9.0% of mass 174	19805	5.56	(7.53) [a]	Pass
176	93.0 - 101.0% of mass 174	253973	71.3	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	16353	4.59	(6.44) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSQ1121-IC1121	Q25743.D	02/13/14	13:59	03:05	Initial cal 0.05
MSQ1121-IC1121	Q25744.D	02/13/14	14:42	03:48	Initial cal 0.1
MSQ1121-IC1121	Q25745.D	02/13/14	15:24	04:30	Initial cal 0.25
MSQ1121-ICC1121	Q25746.D	02/13/14	16:07	05:13	Initial cal 0.5
MSQ1121-IC1121	Q25747.D	02/13/14	16:50	05:56	Initial cal 2
MSQ1121-IC1121	Q25748.D	02/13/14	17:34	06:40	Initial cal 5
MSQ1121-CC1121	Q25749.D	02/13/14	18:17	07:23	Continuing cal 0.5
MSQ1121-ICV1121	Q25749A.D	02/13/14	18:17	07:23	Initial cal verification 0.5
MSQ1121-BS	Q25749B.D	02/13/14	18:17	07:23	Blank Spike
MSQ1121-MB	Q25750.D	02/13/14	19:00	08:06	Method Blank
MC27979-1A	Q25753.D	02/13/14	21:09	10:15	SG-2
MC27979-1ADUP	Q25754.D	02/13/14	21:53	10:59	Duplicate
MC27979-2A	Q25755.D	02/13/14	22:37	11:43	IA-2
MC27979-3A	Q25756.D	02/13/14	23:21	12:27	SG-3
MC27979-5A	Q25757.D	02/14/14	00:05	13:11	TRIP BLANK
MC27979-4A	Q25758.D	02/14/14	07:13	20:19	IA-3

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1375-CC1373	**Injection Date:**	01/20/14
Lab File ID:	J26611.D	**Injection Time:**	13:54
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	342103	8.75	1744257	11.06	643992	17.74
Upper Limit [a]	478944	9.08	2441960	11.39	901589	18.07
Lower Limit [b]	205262	8.42	1046554	10.73	386395	17.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1375-BS	342103	8.75	1744257	11.06	643992	17.74
MSJ1375-SCC	356584	8.74	1820268	11.05	570672	17.71
MSJ1375-MB	356584	8.74	1820268	11.05	570672	17.71
ZZZZZZ	379219	8.97	1948439	11.31	1007082[c]	17.80
ZZZZZZ	355533	8.74	1674008	11.05	662888	17.70
ZZZZZZ	388916	8.74	1843741	11.04	709644	17.71
ZZZZZZ	355113	8.75	1768006	11.05	808327	17.71
ZZZZZZ	359573	8.74	2001382	11.05	803994	17.71
MC27621-1	333778	8.75	1885832	11.05	693756	17.70
ZZZZZZ	316464	8.77	1417311	11.07	649817	17.72
ZZZZZZ	336972	8.74	1576588	11.04	631562	17.70
ZZZZZZ	323062	8.75	1589679	11.06	898180	17.72
ZZZZZZ	326956	8.76	1627903	11.11	767915	17.81
ZZZZZZ	394061	8.77	2069273	11.15	1409279[d]	17.87
ZZZZZZ	408907	8.75	2182511	11.05	925633[d]	17.71
ZZZZZZ	384886	8.76	2050328	11.06	1337760[d]	17.77
ZZZZZZ	455568	8.76	2456980[d]	11.06	1222155[d]	17.77
ZZZZZZ	417933	8.75	2250176	11.06	888077	17.74
ZZZZZZ	444725	8.76	2435957	11.06	1131661[e]	17.71
MC27621-1DUP	435612	8.74	2296008	11.04	878552	17.71
ZZZZZZ	404361	8.79	1992394	11.07	951649[d]	17.72
ZZZZZZ	383176	8.75	1949164	11.05	899702	17.70
ZZZZZZ	389291	8.77	1882515	11.06	716501	17.70
ZZZZZZ	299887	8.76	1367579	11.06	680885	17.72
ZZZZZZ	375848	8.76	1881019	11.06	987474[d]	17.72
MSJ1375-SCC	351356	8.75	1742278	11.05	841016	17.71

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.
(c) Outside control limits due to matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1375-CC1373	**Injection Date:**	01/20/14
Lab File ID:	J26611.D	**Injection Time:**	13:54
Instrument ID:	GCMSJ	**Method:**	TO-15

Lab Sample ID	IS 1 AREA	IS 1 RT	IS 2 AREA	IS 2 RT	IS 3 AREA	IS 3 RT

(e) Outside control limits due to possible matrix interference.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1379-CC1373	**Injection Date:**	02/03/14
Lab File ID:	J26715.D	**Injection Time:**	15:52
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	287548	8.75	1383128	11.06	566007	17.72
Upper Limit [a]	402567	9.08	1936379	11.39	792410	18.05
Lower Limit [b]	172529	8.42	829877	10.73	339604	17.39

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1379-BS	287548	8.75	1383128	11.06	566007	17.72
MSJ1379-SCC	274374	8.75	1576877	11.05	640068	17.71
MSJ1379-MB	274374	8.75	1576877	11.05	640068	17.71
MSJ1379-SCC	264560	8.74	1376871	11.04	613719	17.70
ZZZZZZ	286858	8.75	1512460	11.05	723604	17.71
ZZZZZZ	257777	8.74	1457583	11.04	636719	17.70
ZZZZZZ	252309	8.75	1429527	11.05	764414	17.71
ZZZZZZ	252101	8.76	1295762	11.06	531186	17.71
ZZZZZZ	284839	8.75	1555396	11.05	776765	17.71
MSJ1379-SCC	260286	8.75	1393561	11.05	527479	17.70
MSJ1379-SCC	251226	8.75	1293393	11.05	687371	17.70
ZZZZZZ	241644	8.75	1223358	11.04	563345	17.70
ZZZZZZ	322807	8.76	1693418	11.06	879721[c]	17.72
ZZZZZZ	300207	8.74	1550424	11.04	619324	17.70
MC28074-1	292488	8.76	1643648	11.05	843850[c]	17.71
ZZZZZZ	324798	8.76	1849151	11.05	826720[c]	17.71
ZZZZZZ	300076	8.75	1687777	11.05	726128	17.71
MC28074-1DUP	300573	8.75	1565018	11.05	695226	17.70
ZZZZZZ	308763	8.74	1618214	11.04	746484	17.70
ZZZZZZ	291082	8.74	1607778	11.04	697588	17.70

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.
(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1381-ICC1381	**Injection Date:**	02/11/14
Lab File ID:	J26761.D	**Injection Time:**	18:38
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	875327	8.74	4825730	11.06	2051209	17.72
Upper Limit [a]	1225458	9.07	6756022	11.39	2871693	18.05
Lower Limit [b]	525196	8.41	2895438	10.73	1230725	17.39

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1381-BS	832033	8.75	4681311	11.06	2248398	17.73

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1381-CC1381	**Injection Date:**	02/12/14
Lab File ID:	J26766.D	**Injection Time:**	13:34
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	832033	8.75	4681311	11.06	2248398	17.73
Upper Limit [a]	1164846	9.08	6553835	11.39	3147757	18.06
Lower Limit [b]	499220	8.42	2808787	10.73	1349039	17.40

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1381-MB	843209	8.76	4871315	11.06	2145781	17.71
MC27979-5 [c]	651451	8.76	3538949	11.06	1013727[d]	17.71
MC27979-5	1314439[d]	8.76	6833567[d]	11.06	3189837[d]	17.71
MC27979-1	608142	8.77	3138119	11.07	1191249[d]	17.72
MC27979-3	670881	8.77	3369679	11.07	1509773	17.73
MC27979-3	820106	8.76	4363057	11.06	1653779	17.71
MC27979-4	749619	8.76	4054207	11.06	1776745	17.71
MC27979-1	699284	8.76	3722258	11.06	1681038	17.71
MC27979-2	667219	8.76	3451666	11.06	1392095	17.71
MC27979-4DUP	620188	8.76	3211393	11.06	1570457	17.71

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.
(c) Confirmation run for internal standard areas.
(d) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSJ1382-CC1381	**Injection Date:**	02/14/14
Lab File ID:	J26779.D	**Injection Time:**	07:08
Instrument ID:	GCMSJ	**Method:**	TO-15

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	657255	8.76	3473291	11.07	1514155	17.74
Upper Limit [a]	920157	9.09	4862607	11.40	2119817	18.07
Lower Limit [b]	394353	8.43	2083975	10.74	908493	17.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSJ1382-BS	657255	8.76	3473291	11.07	1514155	17.74
MSJ1382-MB	662162	8.74	3357075	11.04	1386165	17.71
MC27979-2	640472	8.75	3030247	11.04	1378854	17.71
MC28079-1	621599	8.76	3271179	11.06	1378591	17.71
MC28079-1DUP	640615	8.76	3403217	11.06	1784970	17.71
ZZZZZZ	595835	8.74	2983135	11.04	1267664	17.70
ZZZZZZ	670291	8.75	3453079	11.05	1730679	17.70
ZZZZZZ	647202	8.76	3377400	11.05	1502741	17.70

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Volatile Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Check Std:	MSQ1121-CC1121	**Injection Date:**	02/13/14
Lab File ID:	Q25749.D	**Injection Time:**	18:17
Instrument ID:	GCMSQ	**Method:**	TO-15 BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	678759	8.87	3275755	11.16	1288933	17.81
Upper Limit [a]	950263	9.20	4586057	11.49	1804506	18.14
Lower Limit [b]	407255	8.54	1965453	10.83	773360	17.48

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
MSQ1121-BS	678759	8.87	3275755	11.16	1288933	17.81
MSQ1121-MB	611287	8.87	2892627	11.16	1060472	17.81
MC27979-1A	684638	8.87	3426430	11.16	1350821	17.81
MC27979-1ADUP	660232	8.87	3306816	11.16	1321689	17.81
MC27979-2A	629466	8.86	3150774	11.16	1220210	17.81
MC27979-3A	672292	8.87	3319716	11.16	1435800	17.82
MC27979-5A	672091	8.87	3354269	11.16	1293756	17.81
MC27979-4A	629770	8.86	3134044	11.15	1255125	17.81

IS 1 = Bromochloromethane
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5

(a) Upper Limit = + 40% of check standard area; Retention time + 0.33 minutes.
(b) Lower Limit = -40% of check standard area; Retention time -0.33 minutes.

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.76	0.645	ok	0.651	0.591-0.711
Acrolein	5.51	8.76	0.629	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.76	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.64	8.76	0.530	ok	0.531	0.471-0.591
Benzene	10.66	11.09	0.961	ok	0.962	0.902-1.022
Bromodichloromethane	12.00	11.09	1.082	ok	1.082	1.022-1.142
Bromoform	19.04	17.76	1.072	ok	1.071	1.011-1.131
Bromomethane	4.91	8.76	0.561	ok	0.562	0.502-0.622
Bromoethene	5.41	8.76	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.43	17.76	1.432	ok	1.434	1.374-1.494
sec-Butylbenzene	24.18	17.76	1.361	ok	1.363	1.303-1.423
Benzyl Chloride	23.87	17.76	1.344	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.76	0.782	ok	0.783	0.723-0.843
Chlorobenzene	17.84	17.76	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.76	0.580	ok	0.581	0.521-0.641
Chloroform	8.91	8.76	1.017	ok	1.016	0.956-1.076
Chloromethane	4.29	8.76	0.490	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.76	0.757	ok	0.758	0.698-0.818
2-Chlorotoluene	21.98	17.76	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.84	8.76	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.09	0.991	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.76	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.76	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.89	17.76	0.895	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.78	8.76	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.74	11.09	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.82	11.09	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.14	11.09	1.095	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.76	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.47	17.76	0.871	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.76	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.57	8.76	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.26	11.09	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.90	17.76	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.82	17.76	1.398	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.06	17.76	1.355	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.05	11.09	1.267	ok	1.268	1.208-1.328
Ethanol	5.23	8.76	0.597	ok	0.604	0.544-0.664
Ethylbenzene	18.53	17.76	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.84	8.76	1.009	ok	1.010	0.950-1.070
4-Ethyltoluene	22.40	17.76	1.261	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.76	0.772	ok	0.773	0.713-0.833
Freon 114	4.39	8.76	0.501	ok	0.502	0.442-0.562
Heptane	12.41	11.09	1.119	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.76	1.627	ok	1.630	1.570-1.690
Hexane	8.77	8.76	1.001	ok	1.002	0.942-1.062
2-Hexanone	15.25	17.76	0.859	ok	0.862	0.802-0.922
Isopropylbenzene	20.97	17.76	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.99	8.76	0.684	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.56	17.76	1.383	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.76	0.744	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.14	8.76	0.929	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.40	11.09	1.208	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.75	8.76	0.885	ok	0.888	0.828-0.948
Methylmethacrylate	12.32	11.09	1.111	ok	1.112	1.052-1.172
Naphthalene	28.26	17.76	1.591	ok	1.594	1.534-1.654
Nonane	20.21	17.76	1.138	ok	1.138	1.078-1.198
Pentane	6.13	8.76	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.76	0.462	ok	0.463	0.403-0.523
Styrene	19.57	17.76	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.08	8.76	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.82	17.76	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.79	17.76	1.114	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.35	11.09	1.294	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.76	1.581	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.55	17.76	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.59	17.76	1.272	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.07	11.09	1.088	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.58	8.76	0.751	ok	0.750	0.690-0.810
tert-Butylbenzene	23.53	17.76	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.63	17.76	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.43	8.76	1.076	ok	1.082	1.022-1.142
Toluene	14.76	11.09	1.331	ok	1.332	1.272-1.392
Trichloroethylene	12.04	11.09	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.76	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.51	8.76	0.515	ok	0.516	0.456-0.576
Vinyl Acetate	7.82	8.76	0.893	ok	0.893	0.833-0.953
m,p-Xylene	18.88	17.76	1.063	ok	1.063	1.003-1.123
o-Xylene	19.79	17.76	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.76	ok	8.75	8.42-9.08	310875	ok	339366	203620-475112
1,4-Difluorobenzene	11.09	ok	11.06	10.73-11.39	1809440	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.76	ok	17.73	17.40-18.06	795908	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

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MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	Reporting this level
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.76	0.645	ok	0.651	0.591-0.711
Acrolein	5.52	8.76	0.630	ok	0.633	0.573-0.693
Acrylonitrile	6.08	8.76	0.694	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.76	0.531	ok	0.531	0.471-0.591
Benzene	10.65	11.07	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.98	11.07	1.082	ok	1.082	1.022-1.142
Bromoform	19.02	17.75	1.072	ok	1.071	1.011-1.131
Bromomethane	4.92	8.76	0.562	ok	0.562	0.502-0.622
Bromoethene	5.41	8.76	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.42	17.75	1.432	ok	1.434	1.374-1.494
sec-Butylbenzene	24.17	17.75	1.362	ok	1.363	1.303-1.423
Benzyl Chloride	23.86	17.75	1.344	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.76	0.782	ok	0.783	0.723-0.843
Chlorobenzene	17.83	17.75	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.76	0.580	ok	0.581	0.521-0.641
Chloroform	8.90	8.76	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.76	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.76	0.757	ok	0.758	0.698-0.818
2-Chlorotoluene	21.97	17.75	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.83	8.76	1.236	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.07	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.76	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.76	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.87	17.75	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.77	8.76	1.115	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.72	11.07	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.80	11.07	1.337	ok	1.336	1.276-1.396
1,4-Dioxane	12.13	11.07	1.096	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.76	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.45	17.75	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.76	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.76	0.977	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.25	11.07	1.197	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.89	17.75	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.81	17.75	1.398	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.05	17.75	1.355	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.04	11.07	1.268	ok	1.268	1.208-1.328
Ethanol	5.23	8.76	0.597	ok	0.604	0.544-0.664
Ethylbenzene	18.52	17.75	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.82	8.76	1.007	ok	1.010	0.950-1.070
4-Ethyltoluene	22.40	17.75	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	Reporting this level
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.76	0.772	ok	0.773	0.713-0.833
Freon 114	4.39	8.76	0.501	ok	0.502	0.442-0.562
Heptane	12.40	11.07	1.120	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.75	1.628	ok	1.630	1.570-1.690
Hexane	8.77	8.76	1.001	ok	1.002	0.942-1.062
2-Hexanone	15.25	17.75	0.859	ok	0.862	0.802-0.922
Isopropylbenzene	20.96	17.75	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.97	8.76	0.682	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.54	17.75	1.383	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.76	0.743	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.76	0.927	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.38	11.07	1.209	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.74	8.76	0.884	ok	0.888	0.828-0.948
Methylmethacrylate	12.31	11.07	1.112	ok	1.112	1.052-1.172
Naphthalene	28.25	17.75	1.592	ok	1.594	1.534-1.654
Nonane	20.20	17.75	1.138	ok	1.138	1.078-1.198
Pentane	6.13	8.76	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.76	0.462	ok	0.463	0.403-0.523
Styrene	19.55	17.75	1.101	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.07	8.76	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.80	17.75	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.77	17.75	1.114	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.33	11.07	1.294	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.06	17.75	1.581	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.54	17.75	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.58	17.75	1.272	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.05	11.07	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.57	8.76	0.750	ok	0.750	0.690-0.810
tert-Butylbenzene	23.51	17.75	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.61	17.75	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.42	8.76	1.075	ok	1.082	1.022-1.142
Toluene	14.75	11.07	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.03	11.07	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.76	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.76	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	7.81	8.76	0.892	ok	0.893	0.833-0.953
m,p-Xylene	18.87	17.75	1.063	ok	1.063	1.003-1.123
o-Xylene	19.77	17.75	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	Reporting this level
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.76	ok	8.75	8.42-9.08	360830	ok	339366	203620-475112
1,4-Difluorobenzene	11.07	ok	11.06	10.73-11.39	1803194	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.75	ok	17.73	17.40-18.06	896822	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

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MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
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MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.74	0.646	ok	0.651	0.591-0.711
Acrolein	5.52	8.74	0.632	ok	0.633	0.573-0.693
Acrylonitrile	6.07	8.74	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.64	8.74	0.531	ok	0.531	0.471-0.591
Benzene	10.64	11.05	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.05	1.082	ok	1.082	1.022-1.142
Bromoform	18.97	17.72	1.071	ok	1.071	1.011-1.131
Bromomethane	4.91	8.74	0.562	ok	0.562	0.502-0.622
Bromoethene	5.40	8.74	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.40	17.72	1.433	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.72	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.82	17.72	1.344	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.783	0.723-0.843
Chlorobenzene	17.80	17.72	1.005	ok	1.005	0.945-1.065
Chloroethane	5.07	8.74	0.580	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.29	8.74	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.74	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.94	17.72	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.05	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.65	8.74	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.40	8.74	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.72	0.893	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.69	11.05	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.10	11.05	1.095	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.12	8.74	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.72	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.55	8.74	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.85	17.72	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.79	17.72	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.02	17.72	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.22	8.74	0.597	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.72	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.79	8.74	1.006	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.72	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.38	8.74	0.501	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.72	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.002	0.942-1.062
2-Hexanone	15.20	17.72	0.858	ok	0.862	0.802-0.922
Isopropylbenzene	20.92	17.72	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.89	8.74	0.674	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.72	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.10	8.74	0.927	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.32	11.05	1.205	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.73	8.74	0.884	ok	0.888	0.828-0.948
Methylmethacrylate	12.28	11.05	1.111	ok	1.112	1.052-1.172
Naphthalene	28.25	17.72	1.594	ok	1.594	1.534-1.654
Nonane	20.17	17.72	1.138	ok	1.138	1.078-1.198
Pentane	6.12	8.74	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.74	0.463	ok	0.463	0.403-0.523
Styrene	19.52	17.72	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.72	1.002	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.72	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.72	1.583	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.72	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.55	17.72	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.47	8.74	0.740	ok	0.750	0.690-0.810
tert-Butylbenzene	23.48	17.72	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.72	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.41	8.74	1.077	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.05	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.79	8.74	0.662	ok	0.663	0.603-0.723
Vinyl chloride	4.51	8.74	0.516	ok	0.516	0.456-0.576
Vinyl Acetate	7.79	8.74	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.72	1.063	ok	1.063	1.003-1.123
o-Xylene	19.73	17.72	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	367882	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	2075568	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.72	ok	17.73	17.40-18.06	934256	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

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MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.67	8.75	0.648	ok	0.651	0.591-0.711
Acrolein	5.53	8.75	0.632	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.75	0.696	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.75	0.531	ok	0.531	0.471-0.591
Benzene	10.64	11.06	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.06	1.081	ok	1.082	1.022-1.142
Bromoform	18.98	17.72	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.75	0.562	ok	0.562	0.502-0.622
Bromoethene	5.41	8.75	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.72	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.72	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.83	17.72	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.75	0.783	ok	0.783	0.723-0.843
Chlorobenzene	17.80	17.72	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.75	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.75	0.758	ok	0.758	0.698-0.818
2-Chlorotoluene	21.95	17.72	1.239	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.06	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.75	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.72	0.893	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.75	1.114	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.70	11.06	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.77	11.06	1.335	ok	1.336	1.276-1.396
1,4-Dioxane	12.15	11.06	1.099	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.75	0.472	ok	0.472	0.412-0.532
Dibromochloromethane	15.42	17.72	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.75	0.851	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.23	11.06	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.86	17.72	1.347	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.79	17.72	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.03	17.72	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.06	1.267	ok	1.268	1.208-1.328
Ethanol	5.26	8.75	0.601	ok	0.604	0.544-0.664
Ethylbenzene	18.49	17.72	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.81	8.75	1.007	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.72	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.39	8.75	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.06	1.120	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.72	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.002	0.942-1.062
2-Hexanone	15.24	17.72	0.860	ok	0.862	0.802-0.922
Isopropylbenzene	20.93	17.72	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.93	8.75	0.678	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.72	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.75	0.928	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.36	11.06	1.208	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.75	8.75	0.886	ok	0.888	0.828-0.948
Methylmethacrylate	12.29	11.06	1.111	ok	1.112	1.052-1.172
Naphthalene	28.25	17.72	1.594	ok	1.594	1.534-1.654
Nonane	20.17	17.72	1.138	ok	1.138	1.078-1.198
Pentane	6.13	8.75	0.701	ok	0.700	0.640-0.760
Propylene	4.05	8.75	0.463	ok	0.463	0.403-0.523
Styrene	19.52	17.72	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.77	17.72	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.73	17.72	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.06	1.292	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.06	17.72	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.51	17.72	1.327	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.55	17.72	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.06	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.52	8.75	0.745	ok	0.750	0.690-0.810
tert-Butylbenzene	23.49	17.72	1.326	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.72	0.936	ok	0.936	0.876-0.996
Tetrahydrofuran	9.43	8.75	1.078	ok	1.082	1.022-1.142
Toluene	14.73	11.06	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.06	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.75	0.663	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.75	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.80	8.75	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.72	1.063	ok	1.063	1.003-1.123
o-Xylene	19.73	17.72	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	372160	ok	339366	203620-475112
1,4-Difluorobenzene	11.06	ok	11.06	10.73-11.39	2115378	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.72	ok	17.73	17.40-18.06	756373	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.69	8.74	0.651	ok	0.651	0.591-0.711
Acrolein	5.54	8.74	0.634	ok	0.633	0.573-0.693
Acrylonitrile	6.10	8.74	0.698	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.74	0.532	ok	0.531	0.471-0.591
Benzene	10.63	11.05	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.05	1.081	ok	1.082	1.022-1.142
Bromoform	18.96	17.71	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.74	0.563	ok	0.562	0.502-0.622
Bromoethene	5.42	8.74	0.620	ok	0.619	0.559-0.679
n-Butylbenzene	25.40	17.71	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.71	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.82	17.71	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.74	0.785	ok	0.783	0.723-0.843
Chlorobenzene	17.79	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.74	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.93	17.71	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.05	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.69	11.05	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.24	11.05	1.108	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.74	0.979	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.85	17.71	1.347	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.78	17.71	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.02	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.31	8.74	0.608	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.71	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.82	8.74	1.009	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.71	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.74	0.775	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.88	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.002	0.942-1.062
2-Hexanone	15.27	17.71	0.862	ok	0.862	0.802-0.922
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.95	8.74	0.681	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.71	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.74	0.746	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.14	8.74	0.931	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.37	11.05	1.210	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.76	8.74	0.888	ok	0.888	0.828-0.948
Methylmethacrylate	12.28	11.05	1.111	ok	1.112	1.052-1.172
Naphthalene	28.24	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.17	17.71	1.139	ok	1.138	1.078-1.198
Pentane	6.13	8.74	0.701	ok	0.700	0.640-0.760
Propylene	4.06	8.74	0.465	ok	0.463	0.403-0.523
Styrene	19.52	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.71	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.28	11.05	1.292	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.71	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.54	8.74	0.748	ok	0.750	0.690-0.810
tert-Butylbenzene	23.48	17.71	1.326	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.71	0.937	ok	0.936	0.876-0.996
Tetrahydrofuran	9.46	8.74	1.082	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.74	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.81	8.74	0.894	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.71	1.064	ok	1.063	1.003-1.123
o-Xylene	19.72	17.71	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	329164	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	1814624	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.71	ok	17.73	17.40-18.06	769261	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.76	8.75	0.658	ok	0.651	0.591-0.711
Acrolein	5.59	8.75	0.639	ok	0.633	0.573-0.693
Acrylonitrile	6.14	8.75	0.702	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.75	0.533	ok	0.531	0.471-0.591
Benzene	10.64	11.05	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.05	1.081	ok	1.082	1.022-1.142
Bromoform	18.97	17.71	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.75	0.562	ok	0.562	0.502-0.622
Bromoethene	5.42	8.75	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.71	1.435	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.71	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.83	17.71	1.346	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.75	0.784	ok	0.783	0.723-0.843
Chlorobenzene	17.80	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.75	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.64	8.75	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.94	17.71	1.239	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.05	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.75	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.75	1.114	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.70	11.05	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.38	11.05	1.120	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.14	8.75	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.46	8.75	0.853	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.23	11.05	1.197	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.85	17.71	1.347	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.79	17.71	1.400	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.02	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.37	8.75	0.614	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.71	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.88	8.75	1.015	ok	1.010	0.950-1.070
4-Ethyltoluene	22.36	17.71	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.40	8.75	0.503	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181
Hexachlorobutadiene	28.90	17.71	1.632	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.002	0.942-1.062
2-Hexanone	15.38	17.71	0.868	ok	0.862	0.802-0.922
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.09	8.75	0.696	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.52	17.71	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.21	8.75	0.938	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.43	11.05	1.215	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.82	8.75	0.894	ok	0.888	0.828-0.948
Methylmethacrylate	12.31	11.05	1.114	ok	1.112	1.052-1.172
Naphthalene	28.26	17.71	1.596	ok	1.594	1.534-1.654
Nonane	20.17	17.71	1.139	ok	1.138	1.078-1.198
Pentane	6.13	8.75	0.701	ok	0.700	0.640-0.760
Propylene	4.06	8.75	0.464	ok	0.463	0.403-0.523
Styrene	19.52	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.71	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.71	1.585	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.72	8.75	0.768	ok	0.750	0.690-0.810
tert-Butylbenzene	23.48	17.71	1.326	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.71	0.937	ok	0.936	0.876-0.996
Tetrahydrofuran	9.54	8.75	1.090	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.75	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.75	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.83	8.75	0.895	ok	0.893	0.833-0.953
m,p-Xylene	18.84	17.71	1.064	ok	1.063	1.003-1.123
o-Xylene	19.73	17.71	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	Reporting this level
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	353828	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	1775167	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.71	ok	17.73	17.40-18.06	563094	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
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Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.78	8.74	0.661	ok	0.651	0.591-0.711
1,3-Butadiene	4.64	8.74	0.531	ok	0.531	0.471-0.591
Benzene	10.63	11.05	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.05	1.082	ok	1.082	1.022-1.142
Bromoform	18.96	17.71	1.071	ok	1.071	1.011-1.131
Bromomethane	4.92	8.74	0.563	ok	0.562	0.502-0.622
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.71	1.435	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.71	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.83	17.71	1.346	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.74	0.785	ok	0.783	0.723-0.843
Chlorobenzene	17.79	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.29	8.74	0.491	ok	0.491	0.431-0.551
3-Chloropropene	6.63	8.74	0.759	ok	0.758	0.698-0.818
2-Chlorotoluene	21.93	17.71	1.238	ok	1.238	1.178-1.298
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.05	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.115	1.055-1.175
1,2-Dichloropropane	11.70	11.05	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.870	0.810-0.930
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.74	0.979	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.196	1.136-1.256
m-Dichlorobenzene	23.84	17.71	1.346	ok	1.346	1.286-1.406
o-Dichlorobenzene	24.78	17.71	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.37	8.74	0.614	ok	0.604	0.544-0.664
Ethylbenzene	18.48	17.71	1.043	ok	1.043	0.983-1.103
Ethyl Acetate	8.88	8.74	1.016	ok	1.010	0.950-1.070
4-Ethyltoluene	22.35	17.71	1.262	ok	1.262	1.202-1.322
Freon 113	6.77	8.74	0.775	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.05	1.121	ok	1.121	1.061-1.181

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1373-IC1373	J26578.D	01/16/14 22:27	AA	40	GCMSJ	TO-15	
MSJ1373-IC1373	J26579.D	01/16/14 23:12	AA	20	GCMSJ	TO-15	
MSJ1373-ICC1373	J26580.D	01/16/14 23:54	AA	10	GCMSJ	TO-15	
MSJ1373-IC1373	J26581.D	01/17/14 00:37	AA	5	GCMSJ	TO-15	
MSJ1373-IC1373	J26582.D	01/17/14 01:21	AA	2	GCMSJ	TO-15	
MSJ1373-IC1373	J26583.D	01/17/14 07:55	AA	0.5	GCMSJ	TO-15	
MSJ1373-IC1373	J26584.D	01/17/14 08:37	AA	0.2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Hexachlorobutadiene	28.88	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.002	0.942-1.062
2-Hexanone	15.35	17.71	0.867	ok	0.862	0.802-0.922
Isopropylbenzene	20.91	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.10	8.74	0.698	ok	0.685	0.625-0.745
p-Isopropyltoluene	24.51	17.71	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.74	0.746	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.22	8.74	0.941	ok	0.932	0.872-0.992
Methyl Isobutyl Ketone	13.44	11.05	1.216	ok	1.210	1.150-1.270
Methyl Tert Butyl Ether	7.84	8.74	0.897	ok	0.888	0.828-0.948
Methylmethacrylate	12.31	11.05	1.114	ok	1.112	1.052-1.172
Naphthalene	28.25	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.71	1.138	ok	1.138	1.078-1.198
Pentane	6.12	8.74	0.700	ok	0.700	0.640-0.760
Propylene	4.05	8.74	0.463	ok	0.463	0.403-0.523
Styrene	19.51	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.75	17.71	1.002	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.71	17.71	1.113	ok	1.113	1.053-1.173
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.71	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.49	17.71	1.326	ok	1.326	1.266-1.386
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.272	1.212-1.332
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
tert-Butylbenzene	23.47	17.71	1.325	ok	1.325	1.265-1.385
Tetrachloroethylene	16.59	17.71	0.937	ok	0.936	0.876-0.996
Tetrahydrofuran	9.57	8.74	1.095	ok	1.082	1.022-1.142
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.663	0.603-0.723
Vinyl chloride	4.52	8.74	0.517	ok	0.516	0.456-0.576
Vinyl Acetate	7.84	8.74	0.897	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.71	1.063	ok	1.063	1.003-1.123
o-Xylene	19.72	17.71	1.113	ok	1.114	1.054-1.174

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	280820	ok	339366	203620-475112
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	1535783	ok	1847022	1108213-2585831
Chlorobenzene-D5	17.71	ok	17.73	17.40-18.06	591952	ok	758238	454943-1061533

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.79	8.75	0.662	ok	0.650	0.590-0.710
Acrolein	5.60	8.75	0.640	ok	0.633	0.573-0.693
Acrylonitrile	6.15	8.75	0.703	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.75	0.533	ok	0.532	0.472-0.592
Benzene	10.64	11.05	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.05	1.081	ok	1.082	1.022-1.142
Bromoform	18.96	17.71	1.071	ok	1.072	1.012-1.132
Bromomethane	4.93	8.75	0.563	ok	0.563	0.503-0.623
Bromoethene	5.42	8.75	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.40	17.71	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.71	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.82	17.71	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.75	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.79	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.09	8.75	0.582	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.64	8.75	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.93	17.71	1.238	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.05	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.75	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.75	1.114	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.69	11.05	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.76	11.05	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.42	11.05	1.124	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.14	8.75	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.46	8.75	0.853	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.05	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.84	17.71	1.346	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.77	17.71	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.71	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.05	1.268	ok	1.268	1.208-1.328
Ethanol	5.39	8.75	0.616	ok	0.603	0.543-0.663
Ethylbenzene	18.48	17.71	1.043	ok	1.044	0.984-1.104
Ethyl Acetate	8.89	8.75	1.016	ok	1.009	0.949-1.069
4-Ethyltoluene	22.35	17.71	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.40	8.75	0.503	ok	0.502	0.442-0.562
Heptane	12.38	11.05	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.003	0.943-1.063
2-Hexanone	15.38	17.71	0.868	ok	0.861	0.801-0.921
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.13	8.75	0.701	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.51	17.71	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.22	8.75	0.939	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.44	11.05	1.216	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.83	8.75	0.895	ok	0.890	0.830-0.950
Methylmethacrylate	12.31	11.05	1.114	ok	1.112	1.052-1.172
Naphthalene	28.25	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.71	1.138	ok	1.139	1.079-1.199
Pentane	6.13	8.75	0.701	ok	0.701	0.641-0.761
Propylene	4.07	8.75	0.465	ok	0.464	0.404-0.524
Styrene	19.51	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.76	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.72	17.71	1.113	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.29	11.05	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.71	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.04	11.05	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.77	8.75	0.774	ok	0.752	0.692-0.812
tert-Butylbenzene	23.48	17.71	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.59	17.71	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.57	8.75	1.094	ok	1.085	1.025-1.145
Toluene	14.72	11.05	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.05	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.75	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.53	8.75	0.518	ok	0.517	0.457-0.577
Vinyl Acetate	7.84	8.75	0.896	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.71	1.063	ok	1.064	1.004-1.124
o-Xylene	19.72	17.71	1.113	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	856402	ok	827778	496667-1158889
1,4-Difluorobenzene	11.05	ok	11.06	10.73-11.39	4772236	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.71	ok	17.72	17.39-18.05	2257593	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
1,3-Butadiene	4.66	8.75	0.533	ok	0.532	0.472-0.592
Benzene	10.64	11.06	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.06	1.081	ok	1.082	1.022-1.142
Bromoform	18.97	17.71	1.071	ok	1.072	1.012-1.132
Bromomethane	4.93	8.75	0.563	ok	0.563	0.503-0.623
Bromoethene	5.42	8.75	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.71	1.435	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.71	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.85	17.71	1.347	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.75	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.80	17.71	1.005	ok	1.005	0.945-1.065
Chloroethane	5.09	8.75	0.582	ok	0.581	0.521-0.641
Chloroform	8.88	8.75	1.015	ok	1.016	0.956-1.076
Chloromethane	4.30	8.75	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.65	8.75	0.760	ok	0.759	0.699-0.819
2-Chlorotoluene	21.94	17.71	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.75	1.237	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.06	0.994	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.75	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.75	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.83	17.71	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.77	8.75	1.117	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.71	11.06	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.77	11.06	1.335	ok	1.336	1.276-1.396
Dichlorodifluoromethane	4.13	8.75	0.472	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.71	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.47	8.75	0.854	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.75	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.25	11.06	1.198	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.86	17.71	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.79	17.71	1.400	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.03	17.71	1.357	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.03	11.06	1.269	ok	1.268	1.208-1.328
Ethylbenzene	18.48	17.71	1.043	ok	1.044	0.984-1.104
4-Ethyltoluene	22.36	17.71	1.263	ok	1.262	1.202-1.322
Freon 113	6.77	8.75	0.774	ok	0.773	0.713-0.833
Freon 114	4.40	8.75	0.503	ok	0.502	0.442-0.562
Heptane	12.39	11.06	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.71	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.75	1.002	ok	1.003	0.943-1.063
Isopropylbenzene	20.92	17.71	1.181	ok	1.181	1.121-1.241

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
p-Isopropyltoluene	24.52	17.71	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.75	0.745	ok	0.745	0.685-0.805
Methyl Tert Butyl Ether	7.93	8.75	0.906	ok	0.890	0.830-0.950
Naphthalene	28.25	17.71	1.595	ok	1.594	1.534-1.654
Nonane	20.17	17.71	1.139	ok	1.139	1.079-1.199
Pentane	6.13	8.75	0.701	ok	0.701	0.641-0.761
Propylene	4.07	8.75	0.465	ok	0.464	0.404-0.524
Styrene	19.52	17.71	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.75	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.77	17.71	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.73	17.71	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.30	11.06	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.71	1.585	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.71	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.71	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.04	11.06	1.089	ok	1.089	1.029-1.149
tert-Butylbenzene	23.48	17.71	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.60	17.71	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.72	8.75	1.111	ok	1.085	1.025-1.145
Toluene	14.73	11.06	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.06	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.75	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.53	8.75	0.518	ok	0.517	0.457-0.577
m,p-Xylene	18.84	17.71	1.064	ok	1.064	1.004-1.124
o-Xylene	19.73	17.71	1.114	ok	1.114	1.054-1.174

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.75	ok	8.75	8.42-9.08	757200	ok	827778	496667-1158889
1,4-Difluorobenzene	11.06	ok	11.06	10.73-11.39	4081077	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.71	ok	17.72	17.39-18.05	1574607	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.67	8.77	0.647	ok	0.650	0.590-0.710
Acrolein	5.53	8.77	0.631	ok	0.633	0.573-0.693
Acrylonitrile	6.10	8.77	0.696	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.77	0.531	ok	0.532	0.472-0.592
Benzene	10.67	11.10	0.961	ok	0.962	0.902-1.022
Bromodichloromethane	12.02	11.10	1.083	ok	1.082	1.022-1.142
Bromoform	19.09	17.77	1.074	ok	1.072	1.012-1.132
Bromomethane	4.93	8.77	0.562	ok	0.563	0.503-0.623
Bromoethene	5.42	8.77	0.618	ok	0.619	0.559-0.679
n-Butylbenzene	25.44	17.77	1.432	ok	1.434	1.374-1.494
sec-Butylbenzene	24.21	17.77	1.362	ok	1.363	1.303-1.423
Benzyl Chloride	23.92	17.77	1.346	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.77	0.782	ok	0.784	0.724-0.844
Chlorobenzene	17.86	17.77	1.005	ok	1.005	0.945-1.065
Chloroethane	5.09	8.77	0.580	ok	0.581	0.521-0.641
Chloroform	8.92	8.77	1.017	ok	1.016	0.956-1.076
Chloromethane	4.31	8.77	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.65	8.77	0.758	ok	0.759	0.699-0.819
2-Chlorotoluene	22.02	17.77	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.85	8.77	1.237	ok	1.237	1.177-1.297
Cyclohexane	11.00	11.10	0.991	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.69	8.77	0.877	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.42	8.77	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.91	17.77	0.895	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.80	8.77	1.117	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.75	11.10	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.84	11.10	1.337	ok	1.336	1.276-1.396
1,4-Dioxane	12.19	11.10	1.098	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.14	8.77	0.472	ok	0.472	0.412-0.532
Dibromochloromethane	15.49	17.77	0.872	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.47	8.77	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.58	8.77	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.28	11.10	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.93	17.77	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.85	17.77	1.398	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.10	17.77	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.08	11.10	1.268	ok	1.268	1.208-1.328
Ethanol	5.28	8.77	0.602	ok	0.603	0.543-0.663
Ethylbenzene	18.55	17.77	1.044	ok	1.044	0.984-1.104
Ethyl Acetate	8.87	8.77	1.011	ok	1.009	0.949-1.069
4-Ethyltoluene	22.44	17.77	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.77	0.772	ok	0.773	0.713-0.833
Freon 114	4.41	8.77	0.503	ok	0.502	0.442-0.562
Heptane	12.42	11.10	1.119	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.90	17.77	1.626	ok	1.630	1.570-1.690
Hexane	8.79	8.77	1.002	ok	1.003	0.943-1.063
2-Hexanone	15.33	17.77	0.863	ok	0.861	0.801-0.921
Isopropylbenzene	21.00	17.77	1.182	ok	1.181	1.121-1.241
Isopropyl Alcohol	6.06	8.77	0.691	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.59	17.77	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.53	8.77	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.17	8.77	0.932	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.43	11.10	1.210	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.76	8.77	0.885	ok	0.890	0.830-0.950
Methylmethacrylate	12.35	11.10	1.113	ok	1.112	1.052-1.172
Naphthalene	28.27	17.77	1.591	ok	1.594	1.534-1.654
Nonane	20.22	17.77	1.138	ok	1.139	1.079-1.199
Pentane	6.14	8.77	0.700	ok	0.701	0.641-0.761
Propylene	4.07	8.77	0.464	ok	0.464	0.404-0.524
Styrene	19.61	17.77	1.104	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.09	8.77	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.83	17.77	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.84	17.77	1.116	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.37	11.10	1.295	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.07	17.77	1.580	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.59	17.77	1.328	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.63	17.77	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.08	11.10	1.088	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.68	8.77	0.762	ok	0.752	0.692-0.812
tert-Butylbenzene	23.56	17.77	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.63	17.77	0.936	ok	0.937	0.877-0.997
Tetrahydrofuran	9.45	8.77	1.078	ok	1.085	1.025-1.145
Toluene	14.77	11.10	1.331	ok	1.332	1.272-1.392
Trichloroethylene	12.05	11.10	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.77	0.662	ok	0.664	0.604-0.724
Vinyl chloride	4.53	8.77	0.517	ok	0.517	0.457-0.577
Vinyl Acetate	7.84	8.77	0.894	ok	0.893	0.833-0.953
m,p-Xylene	18.90	17.77	1.064	ok	1.064	1.004-1.124
o-Xylene	19.82	17.77	1.115	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.77	ok	8.75	8.42-9.08	825665	ok	827778	496667-1158889
1,4-Difluorobenzene	11.10	ok	11.06	10.73-11.39	4744510	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.77	ok	17.72	17.39-18.05	2165524	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	Reporting this level
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.66	8.76	0.646	ok	0.650	0.590-0.710
Acrolein	5.53	8.76	0.631	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.76	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.66	8.76	0.532	ok	0.532	0.472-0.592
Benzene	10.65	11.07	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.97	11.07	1.081	ok	1.082	1.022-1.142
Bromoform	19.00	17.73	1.072	ok	1.072	1.012-1.132
Bromomethane	4.92	8.76	0.562	ok	0.563	0.503-0.623
Bromoethene	5.42	8.76	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.73	1.433	ok	1.434	1.374-1.494
sec-Butylbenzene	24.16	17.73	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.84	17.73	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.86	8.76	0.783	ok	0.784	0.724-0.844
Chlorobenzene	17.81	17.73	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.76	0.580	ok	0.581	0.521-0.641
Chloroform	8.90	8.76	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.76	0.491	ok	0.492	0.432-0.552
3-Chloropropene	6.64	8.76	0.758	ok	0.759	0.699-0.819
2-Chlorotoluene	21.96	17.73	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.83	8.76	1.236	ok	1.237	1.177-1.297
Cyclohexane	10.99	11.07	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.67	8.76	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.76	0.732	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.86	17.73	0.895	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.77	8.76	1.115	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.71	11.07	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.78	11.07	1.335	ok	1.336	1.276-1.396
1,4-Dioxane	12.11	11.07	1.094	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.76	0.471	ok	0.472	0.412-0.532
Dibromochloromethane	15.44	17.73	0.871	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.76	0.850	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.76	0.977	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.24	11.07	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.87	17.73	1.346	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.80	17.73	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.04	17.73	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.03	11.07	1.267	ok	1.268	1.208-1.328
Ethanol	5.23	8.76	0.597	ok	0.603	0.543-0.663
Ethylbenzene	18.50	17.73	1.043	ok	1.044	0.984-1.104
Ethyl Acetate	8.82	8.76	1.007	ok	1.009	0.949-1.069
4-Ethyltoluene	22.38	17.73	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	Reporting this level
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.77	8.76	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.76	0.501	ok	0.502	0.442-0.562
Heptane	12.40	11.07	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.73	1.629	ok	1.630	1.570-1.690
Hexane	8.77	8.76	1.001	ok	1.003	0.943-1.063
2-Hexanone	15.22	17.73	0.858	ok	0.861	0.801-0.921
Isopropylbenzene	20.94	17.73	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.95	8.76	0.679	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.54	17.73	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.52	8.76	0.744	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.76	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.36	11.07	1.207	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.75	8.76	0.885	ok	0.890	0.830-0.950
Methylmethacrylate	12.30	11.07	1.111	ok	1.112	1.052-1.172
Naphthalene	28.25	17.73	1.593	ok	1.594	1.534-1.654
Nonane	20.18	17.73	1.138	ok	1.139	1.079-1.199
Pentane	6.13	8.76	0.700	ok	0.701	0.641-0.761
Propylene	4.06	8.76	0.463	ok	0.464	0.404-0.524
Styrene	19.54	17.73	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.07	8.76	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.78	17.73	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.75	17.73	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.31	11.07	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.73	1.582	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.52	17.73	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.57	17.73	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.05	11.07	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.54	8.76	0.747	ok	0.752	0.692-0.812
tert-Butylbenzene	23.50	17.73	1.325	ok	1.326	1.266-1.386
Tetrachloroethylene	16.60	17.73	0.936	ok	0.937	0.877-0.997
Tetrahydrofuran	9.42	8.76	1.075	ok	1.085	1.025-1.145
Toluene	14.74	11.07	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.02	11.07	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.81	8.76	0.663	ok	0.664	0.604-0.724
Vinyl chloride	4.52	8.76	0.516	ok	0.517	0.457-0.577
Vinyl Acetate	7.81	8.76	0.892	ok	0.893	0.833-0.953
m,p-Xylene	18.85	17.73	1.063	ok	1.064	1.004-1.124
o-Xylene	19.75	17.73	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	Reporting this level
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.76	ok	8.75	8.42-9.08	783989	ok	827778	496667-1158889
1,4-Difluorobenzene	11.07	ok	11.06	10.73-11.39	4355078	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.73	ok	17.72	17.39-18.05	2545304	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.74	0.646	ok	0.650	0.590-0.710
Acrolein	5.52	8.74	0.632	ok	0.633	0.573-0.693
Acrylonitrile	6.07	8.74	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.74	0.532	ok	0.532	0.472-0.592
Benzene	10.64	11.06	0.962	ok	0.962	0.902-1.022
Bromodichloromethane	11.96	11.06	1.081	ok	1.082	1.022-1.142
Bromoform	18.99	17.72	1.072	ok	1.072	1.012-1.132
Bromomethane	4.92	8.74	0.563	ok	0.563	0.503-0.623
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.41	17.72	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.15	17.72	1.363	ok	1.363	1.303-1.423
Benzyl Chloride	23.84	17.72	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.80	17.72	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.492	0.432-0.552
3-Chloropropene	6.63	8.74	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.95	17.72	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.06	0.993	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.84	17.72	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.70	11.06	1.058	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.77	11.06	1.335	ok	1.336	1.276-1.396
1,4-Dioxane	12.11	11.06	1.095	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.42	17.72	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.56	8.74	0.979	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.23	11.06	1.196	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.86	17.72	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.79	17.72	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.03	17.72	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	14.01	11.06	1.267	ok	1.268	1.208-1.328
Ethanol	5.23	8.74	0.598	ok	0.603	0.543-0.663
Ethylbenzene	18.49	17.72	1.043	ok	1.044	0.984-1.104
Ethyl Acetate	8.80	8.74	1.007	ok	1.009	0.949-1.069
4-Ethyltoluene	22.37	17.72	1.262	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.39	11.06	1.120	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.72	1.630	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.003	0.943-1.063
2-Hexanone	15.22	17.72	0.859	ok	0.861	0.801-0.921
Isopropylbenzene	20.93	17.72	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.92	8.74	0.677	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.52	17.72	1.384	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.11	8.74	0.928	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.35	11.06	1.207	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.74	8.74	0.886	ok	0.890	0.830-0.950
Methylmethacrylate	12.28	11.06	1.110	ok	1.112	1.052-1.172
Naphthalene	28.24	17.72	1.594	ok	1.594	1.534-1.654
Nonane	20.18	17.72	1.139	ok	1.139	1.079-1.199
Pentane	6.13	8.74	0.701	ok	0.701	0.641-0.761
Propylene	4.05	8.74	0.463	ok	0.464	0.404-0.524
Styrene	19.53	17.72	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.06	8.74	1.151	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.77	17.72	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.74	17.72	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.30	11.06	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.72	1.583	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.51	17.72	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.56	17.72	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.04	11.06	1.089	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.51	8.74	0.745	ok	0.752	0.692-0.812
tert-Butylbenzene	23.50	17.72	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.60	17.72	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.42	8.74	1.078	ok	1.085	1.025-1.145
Toluene	14.73	11.06	1.332	ok	1.332	1.272-1.392
Trichloroethylene	12.01	11.06	1.086	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.52	8.74	0.517	ok	0.517	0.457-0.577
Vinyl Acetate	7.79	8.74	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.85	17.72	1.064	ok	1.064	1.004-1.124
o-Xylene	19.74	17.72	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	875327	ok	827778	496667-1158889
1,4-Difluorobenzene	11.06	ok	11.06	10.73-11.39	4825730	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.72	ok	17.72	17.39-18.05	2051209	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.65	8.74	0.646	ok	0.650	0.590-0.710
Acrolein	5.53	8.74	0.633	ok	0.633	0.573-0.693
Acrylonitrile	6.07	8.74	0.695	ok	0.697	0.637-0.757
1,3-Butadiene	4.64	8.74	0.531	ok	0.532	0.472-0.592
Benzene	10.63	11.04	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.95	11.04	1.082	ok	1.082	1.022-1.142
Bromoform	18.96	17.70	1.071	ok	1.072	1.012-1.132
Bromomethane	4.91	8.74	0.562	ok	0.563	0.503-0.623
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.39	17.70	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.70	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.81	17.70	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.78	17.70	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.492	0.432-0.552
3-Chloropropene	6.63	8.74	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.93	17.70	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.04	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.65	8.74	0.875	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.82	17.70	0.894	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.69	11.04	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.75	11.04	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.12	11.04	1.098	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.41	17.70	0.871	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.55	8.74	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.04	1.197	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.84	17.70	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.77	17.70	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.70	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	13.99	11.04	1.267	ok	1.268	1.208-1.328
Ethanol	5.22	8.74	0.597	ok	0.603	0.543-0.663
Ethylbenzene	18.48	17.70	1.044	ok	1.044	0.984-1.104
Ethyl Acetate	8.79	8.74	1.006	ok	1.009	0.949-1.069
4-Ethyltoluene	22.35	17.70	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.38	11.04	1.121	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.89	17.70	1.632	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.003	0.943-1.063
2-Hexanone	15.20	17.70	0.859	ok	0.861	0.801-0.921
Isopropylbenzene	20.92	17.70	1.182	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.89	8.74	0.674	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.51	17.70	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.10	8.74	0.927	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.32	11.04	1.207	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.74	8.74	0.886	ok	0.890	0.830-0.950
Methylmethacrylate	12.27	11.04	1.111	ok	1.112	1.052-1.172
Naphthalene	28.24	17.70	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.70	1.139	ok	1.139	1.079-1.199
Pentane	6.12	8.74	0.700	ok	0.701	0.641-0.761
Propylene	4.05	8.74	0.463	ok	0.464	0.404-0.524
Styrene	19.51	17.70	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.05	8.74	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.75	17.70	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.71	17.70	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.28	11.04	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.05	17.70	1.585	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.50	17.70	1.328	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.70	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.03	11.04	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.47	8.74	0.740	ok	0.752	0.692-0.812
tert-Butylbenzene	23.47	17.70	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.59	17.70	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.41	8.74	1.077	ok	1.085	1.025-1.145
Toluene	14.72	11.04	1.333	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.04	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.51	8.74	0.516	ok	0.517	0.457-0.577
Vinyl Acetate	7.79	8.74	0.891	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.70	1.064	ok	1.064	1.004-1.124
o-Xylene	19.72	17.70	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	Reporting this level
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	848884	ok	827778	496667-1158889
1,4-Difluorobenzene	11.04	ok	11.06	10.73-11.39	4621404	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.70	ok	17.72	17.39-18.05	2381019	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Acetone	5.68	8.74	0.650	ok	0.650	0.590-0.710
Acrolein	5.54	8.74	0.634	ok	0.633	0.573-0.693
Acrylonitrile	6.09	8.74	0.697	ok	0.697	0.637-0.757
1,3-Butadiene	4.65	8.74	0.532	ok	0.532	0.472-0.592
Benzene	10.63	11.04	0.963	ok	0.962	0.902-1.022
Bromodichloromethane	11.94	11.04	1.082	ok	1.082	1.022-1.142
Bromoform	18.96	17.70	1.071	ok	1.072	1.012-1.132
Bromomethane	4.92	8.74	0.563	ok	0.563	0.503-0.623
Bromoethene	5.41	8.74	0.619	ok	0.619	0.559-0.679
n-Butylbenzene	25.39	17.70	1.434	ok	1.434	1.374-1.494
sec-Butylbenzene	24.14	17.70	1.364	ok	1.363	1.303-1.423
Benzyl Chloride	23.81	17.70	1.345	ok	1.345	1.285-1.405
Carbon disulfide	6.85	8.74	0.784	ok	0.784	0.724-0.844
Chlorobenzene	17.78	17.70	1.005	ok	1.005	0.945-1.065
Chloroethane	5.08	8.74	0.581	ok	0.581	0.521-0.641
Chloroform	8.88	8.74	1.016	ok	1.016	0.956-1.076
Chloromethane	4.30	8.74	0.492	ok	0.492	0.432-0.552
3-Chloropropene	6.63	8.74	0.759	ok	0.759	0.699-0.819
2-Chlorotoluene	21.93	17.70	1.239	ok	1.239	1.179-1.299
Carbon tetrachloride	10.82	8.74	1.238	ok	1.237	1.177-1.297
Cyclohexane	10.98	11.04	0.995	ok	0.993	0.933-1.053
1,1-Dichloroethane	7.66	8.74	0.876	ok	0.876	0.816-0.936
1,1-Dichloroethylene	6.41	8.74	0.733	ok	0.733	0.673-0.793
1,2-Dibromoethane	15.81	17.70	0.893	ok	0.894	0.834-0.954
1,2-Dichloroethane	9.75	8.74	1.116	ok	1.116	1.056-1.176
1,2-Dichloropropane	11.69	11.04	1.059	ok	1.058	0.998-1.118
1,3-Dichloropropane	14.75	11.04	1.336	ok	1.336	1.276-1.396
1,4-Dioxane	12.19	11.04	1.104	ok	1.102	1.042-1.162
Dichlorodifluoromethane	4.13	8.74	0.473	ok	0.472	0.412-0.532
Dibromochloromethane	15.40	17.70	0.870	ok	0.871	0.811-0.931
trans-1,2-Dichloroethylene	7.45	8.74	0.852	ok	0.852	0.792-0.912
cis-1,2-Dichloroethylene	8.55	8.74	0.978	ok	0.978	0.918-1.038
cis-1,3-Dichloropropene	13.22	11.04	1.197	ok	1.197	1.137-1.257
m-Dichlorobenzene	23.84	17.70	1.347	ok	1.347	1.287-1.407
o-Dichlorobenzene	24.77	17.70	1.399	ok	1.399	1.339-1.459
p-Dichlorobenzene	24.01	17.70	1.356	ok	1.356	1.296-1.416
trans-1,3-Dichloropropene	13.99	11.04	1.267	ok	1.268	1.208-1.328
Ethanol	5.29	8.74	0.605	ok	0.603	0.543-0.663
Ethylbenzene	18.47	17.70	1.044	ok	1.044	0.984-1.104
Ethyl Acetate	8.81	8.74	1.008	ok	1.009	0.949-1.069
4-Ethyltoluene	22.35	17.70	1.263	ok	1.262	1.202-1.322

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Freon 113	6.76	8.74	0.773	ok	0.773	0.713-0.833
Freon 114	4.39	8.74	0.502	ok	0.502	0.442-0.562
Heptane	12.38	11.04	1.121	ok	1.120	1.060-1.180
Hexachlorobutadiene	28.87	17.70	1.631	ok	1.630	1.570-1.690
Hexane	8.77	8.74	1.003	ok	1.003	0.943-1.063
2-Hexanone	15.23	17.70	0.860	ok	0.861	0.801-0.921
Isopropylbenzene	20.91	17.70	1.181	ok	1.181	1.121-1.241
Isopropyl Alcohol	5.93	8.74	0.678	ok	0.683	0.623-0.743
p-Isopropyltoluene	24.51	17.70	1.385	ok	1.384	1.324-1.444
Methylene chloride	6.51	8.74	0.745	ok	0.745	0.685-0.805
Methyl ethyl ketone	8.12	8.74	0.929	ok	0.930	0.870-0.990
Methyl Isobutyl Ketone	13.36	11.04	1.210	ok	1.209	1.149-1.269
Methyl Tert Butyl Ether	7.76	8.74	0.888	ok	0.890	0.830-0.950
Methylmethacrylate	12.28	11.04	1.112	ok	1.112	1.052-1.172
Naphthalene	28.23	17.70	1.595	ok	1.594	1.534-1.654
Nonane	20.16	17.70	1.139	ok	1.139	1.079-1.199
Pentane	6.13	8.74	0.701	ok	0.701	0.641-0.761
Propylene	4.05	8.74	0.463	ok	0.464	0.404-0.524
Styrene	19.51	17.70	1.102	ok	1.102	1.042-1.162
1,1,1-Trichloroethane	10.05	8.74	1.150	ok	1.150	1.090-1.210
1,1,1,2-Tetrachloroethane	17.75	17.70	1.003	ok	1.003	0.943-1.063
1,1,2,2-Tetrachloroethane	19.71	17.70	1.114	ok	1.114	1.054-1.174
1,1,2-Trichloroethane	14.27	11.04	1.293	ok	1.293	1.233-1.353
1,2,4-Trichlorobenzene	28.04	17.70	1.584	ok	1.583	1.523-1.643
1,2,4-Trimethylbenzene	23.49	17.70	1.327	ok	1.327	1.267-1.387
1,3,5-Trimethylbenzene	22.54	17.70	1.273	ok	1.273	1.213-1.333
2,2,4-Trimethylpentane	12.03	11.04	1.090	ok	1.089	1.029-1.149
Tertiary Butyl Alcohol	6.52	8.74	0.746	ok	0.752	0.692-0.812
tert-Butylbenzene	23.47	17.70	1.326	ok	1.326	1.266-1.386
Tetrachloroethylene	16.59	17.70	0.937	ok	0.937	0.877-0.997
Tetrahydrofuran	9.44	8.74	1.080	ok	1.085	1.025-1.145
Toluene	14.72	11.04	1.333	ok	1.332	1.272-1.392
Trichloroethylene	12.00	11.04	1.087	ok	1.086	1.026-1.146
Trichlorofluoromethane	5.80	8.74	0.664	ok	0.664	0.604-0.724
Vinyl chloride	4.52	8.74	0.517	ok	0.517	0.457-0.577
Vinyl Acetate	7.80	8.74	0.892	ok	0.893	0.833-0.953
m,p-Xylene	18.83	17.70	1.064	ok	1.064	1.004-1.124
o-Xylene	19.72	17.70	1.114	ok	1.114	1.054-1.174

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSJ1381-IC1381	J26757.D	02/11/14 15:45	JB	0.5	GCMSJ	TO-15	
MSJ1381-IC1381	J26758.D	02/11/14 16:27	JB	0.2	GCMSJ	TO-15	
MSJ1381-IC1381	J26759.D	02/11/14 17:12	JB	40	GCMSJ	TO-15	
MSJ1381-IC1381	J26760.D	02/11/14 17:55	JB	20	GCMSJ	TO-15	
MSJ1381-ICC1381	J26761.D	02/11/14 18:38	JB	10	GCMSJ	TO-15	
MSJ1381-IC1381	J26762.D	02/11/14 19:21	JB	5	GCMSJ	TO-15	
MSJ1381-IC1381	J26763.D	02/11/14 20:04	JB	2	GCMSJ	TO-15	Reporting this level

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.74	ok	8.75	8.42-9.08	846981	ok	827778	496667-1158889
1,4-Difluorobenzene	11.04	ok	11.06	10.73-11.39	4735459	ok	4590785	2754471-6427099
Chlorobenzene-D5	17.70	ok	17.72	17.39-18.05	2079433	ok	2150670	1290402-3010938

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.86	0.585	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.77	8.86	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.86	0.737	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.86	1.113	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.57	8.86	0.854	ok	0.854	0.794-0.914
Freon 113	6.88	8.86	0.777	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.86	1.149	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.12	11.15	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.86	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.86	ok	8.87	8.54-9.20	632538	ok	655624	393374-917874
1,4-Difluorobenzene	11.15	ok	11.16	10.83-11.49	2928502	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1077681	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.58	8.87	0.855	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.12	11.16	1.086	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	671052	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3281079	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1234979	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.58	8.87	0.855	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.13	11.16	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	681383	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3294900	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1279694	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.58	8.87	0.855	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.13	11.16	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	680785	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3314362	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1298027	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	Reporting this level
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.57	8.87	0.853	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.13	11.16	1.087	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	638144	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	2988725	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1317869	ok	1263060	757836-1768284

Initial Calibration Retention Time/Internal Standard Area Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample Number	Lab File ID	Injected	By	Level	Inst ID	Method	
MSQ1121-IC1121	Q25743.D	02/13/14 13:59	AA	0.05	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25744.D	02/13/14 14:42	AA	0.1	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25745.D	02/13/14 15:24	AA	0.25	GCMSQ	TO-15 BY SIM	
MSQ1121-ICC1121	Q25746.D	02/13/14 16:07	AA	0.5	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25747.D	02/13/14 16:50	AA	2	GCMSQ	TO-15 BY SIM	
MSQ1121-IC1121	Q25748.D	02/13/14 17:34	AA	5	GCMSQ	TO-15 BY SIM	Reporting this level

Target Compound	RT (min.)	Istd RT (min.)	Rel RT		Mean Rel RT	Rel RT Range (+ /- .06)
Chloroethane	5.18	8.87	0.584	ok	0.584	0.524-0.644
1,1-Dichloroethane	7.78	8.87	0.877	ok	0.877	0.817-0.937
1,1-Dichloroethylene	6.53	8.87	0.736	ok	0.736	0.676-0.796
1,2-Dichloroethane	9.86	8.87	1.112	ok	1.112	1.052-1.172
trans-1,2-Dichloroethylene	7.57	8.87	0.853	ok	0.854	0.794-0.914
Freon 113	6.88	8.87	0.776	ok	0.776	0.716-0.836
1,1,1-Trichloroethane	10.18	8.87	1.148	ok	1.148	1.088-1.208
Tetrachloroethylene	16.70	17.81	0.938	ok	0.938	0.878-0.998
Trichloroethylene	12.12	11.16	1.086	ok	1.087	1.027-1.147
Vinyl chloride	4.62	8.87	0.521	ok	0.521	0.461-0.581

Internal Standard	RT (min.)		Mean RT(min.)	RT Range (+ /- 0.33)	Area		Mean Area	Area Range (+ /- 40 %)
Bromochloromethane	8.87	ok	8.87	8.54-9.20	629840	ok	655624	393374-917874
1,4-Difluorobenzene	11.16	ok	11.16	10.83-11.49	3130574	ok	3156357	1893814-4418900
Chlorobenzene-D5	17.81	ok	17.81	17.48-18.14	1370107	ok	1263060	757836-1768284

Volatile Surrogate Recovery Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Method: TO-15	**Matrix:** AIR

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
MC27979-1	J26776.D	100.0
MC27979-1	J26771.D	70.0
MC27979-2	J26781.D	88.0
MC27979-2	J26777.D	69.0
MC27979-3	J26773.D	87.0
MC27979-3	J26772.D	111.0
MC27979-4	J26775.D	82.0
MC27979-5	J26769.D	44.0* [a]
MC27979-5	J26770.D	92.0
MC27979-4DUP	J26778.D	78.0
MC28079-1DUP	J26783.D	124.0
MSJ1375-SCC	J26640.D	112.0
MSJ1379-SCC	J26719.D	71.0
MSJ1381-BS	J26766B.D	114.0
MSJ1381-MB	J26767.D	97.0
MSJ1382-BS	J26779A.D	76.0
MSJ1382-MB	J26780.D	72.0
MSJ1375-BS	J26611A.D	86.0
MSJ1375-MB	J26612.D	77.0
MSJ1379-BS	J26715A.D	112.0
MSJ1379-MB	J26718.D	72.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	50-129%

(a) Outside control limits. Results confirmed by reanalysis.

Volatile Surrogate Recovery Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Method: TO-15 BY SIM **Matrix:** AIR

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1
MC27979-1A	Q25753.D	103.0
MC27979-2A	Q25755.D	103.0
MC27979-3A	Q25756.D	101.0
MC27979-4A	Q25758.D	111.0
MC27979-5A	Q25757.D	107.0
MC27979-1ADUP	Q25754.D	104.0
MSQ1121-BS	Q25749B.D	102.0
MSQ1121-MB	Q25750.D	105.0

Surrogate Compounds	Recovery Limits
S1 = 4-Bromofluorobenzene	57-139%

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1373-ICC1373
Lab FileID: J26580.D

Response Factor Report MSJ

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Initial Calibration

Calibration Files
.2 =j26584.D .5 =j26583.D 2 =j26582.D 5 =j26581.D
10 =j26580.D 20 =j26579.D 40 =j26578.D

Compound	.2	.5	2	5	10	20	40	Avg	%RSD
1) I BROMOCHLOROMETHANE	ISTD								
2)m DICHLORODIFLUOROM	4.680	3.677	3.397	3.219	2.983	3.121	3.347	3.489	16.33
3)m PROPYLENE	0.861	0.680	0.630	0.595	0.555	0.574	0.599	0.642	16.32
4)m FREON 114	4.054	3.457	3.006	2.487	2.994	2.833	3.262	3.156	15.89
5)m CHLOROMETHANE	0.945	0.793	0.734	0.634	0.698	0.706	0.788	0.757	13.13
6)m VINYL CHLORIDE	1.177	1.032	0.952	0.822	0.930	0.927	1.048	0.984	11.50
7)m 1,3-BUTADIENE	0.627	0.567	0.540	0.473	0.558	0.548	0.640	0.565	9.96
8)m BROMOMETHANE	1.313	1.162	1.113	0.936	1.084	1.057	1.217	1.126	10.73
9)m CHLOROETHANE	0.466	0.420	0.436	0.375	0.428	0.400	0.471	0.428	7.98
10)m ACROLEIN		0.103	0.170	0.164	0.175	0.197	0.266	0.179	29.50
11)m TRICHLOROFLUOROME	3.764	3.252	2.895	2.471	2.857	2.711	3.287	3.034	14.22
12)m ISOPROPYL ALCOHOL	1.929	1.618	1.296	1.124	1.063	1.203	1.312	1.364	22.51
13)m ACETONE	1.048	0.967	0.881	0.752	0.727	0.806	0.966	0.878	13.82
14)m ACRYLONITRILE		0.293	0.388	0.355	0.383	0.435	0.579	0.406	23.92
15)m PENTANE	0.983	0.887	0.763	0.659	0.730	0.705	0.817	0.792	14.23
16)m 1,1-DICHLOROETHYL	1.411	1.153	1.115	0.968	1.079	1.044	1.215	1.141	12.51
17)m CARBON DISULFIDE	3.172	2.807	2.494	2.159	2.371	2.361	2.680	2.578	13.14
18)m ETHANOL	0.165	0.258	0.226	0.218	0.219	0.247	0.282	0.231	16.14
19)m BROMOETHENE	1.312	1.150	1.102	0.950	1.099	1.051	1.232	1.128	10.50
20)m METHYLENE CHLORID	1.386	1.085	0.932	0.821	0.884	0.871	1.011	0.999	19.30
21)m 3-CHLOROPROPENE	0.644	0.692	0.706	0.613	0.697	0.723	0.905	0.711	13.16
22)m FREON 113	2.584	2.210	2.123	1.871	2.063	1.963	2.316	2.161	11.00
23)m TRANS-1,2-DICHLOR	1.033	0.923	0.924	0.848	0.935	0.915	1.077	0.951	8.18
24)m TERTIARY BUTYL AL		1.719	1.625	1.382	1.304	1.461	1.625	1.519	10.63
25)m METHYL TERTIARY B	2.639	2.031	2.216	1.798	1.734	1.888	2.287	2.085	15.33
26)m TETRAHYDROFURAN	0.712	0.656	0.706	0.596	0.596	0.644	0.782	0.670	10.11
27)m HEXANE	1.875	1.461	1.333	1.163	1.308	1.242	1.467	1.407	16.61
28)m VINYL ACETATE	2.457	1.929	1.619	1.353	1.333	1.489	1.915	1.728	23.30
29)m 1,1-DICHLOROETHAN	1.813	1.748	1.595	1.445	1.675	1.650	1.985	1.702	10.05
30)m METHYL ETHYL KETO	1.684	1.399	1.251	1.085	1.006	1.151	1.333	1.273	17.88
31)m cis-1,2-DICHLOROE	1.175	1.128	1.053	0.975	1.161	1.123	1.338	1.136	9.90
32)m ETHYL ACETATE	1.473	1.318	1.299	1.127	1.288	1.268	1.324	1.299	7.82
33)m CHLOROFORM	2.579	2.263	2.121	1.941	2.227	2.188	2.645	2.281	10.96
34)m 1,1,1-TRICHLOROET	2.624	2.339	2.208	2.001	2.320	2.256	2.772	2.360	10.99
35)m CARBON TETRACHLOR	3.502	2.539	2.443	2.307	2.608	2.429	3.258	2.727	16.92
36)m 1,2-DICHLOROETHAN	1.218	1.071	1.075	0.919	1.216	1.210	1.604	1.188	18.01
37) I 1,4-DIFLUOROBENZENE	ISTD								
38)m BENZENE	0.753	0.568	0.492	0.407	0.570	0.586	0.691	0.581	19.89
39)m CYCLOHEXANE	0.413	0.305	0.262	0.249	0.267	0.263	0.307	0.295	19.12
40)m TRICHLOROETHYLENE	0.493	0.405	0.360	0.311	0.333	0.372	0.375	0.378	15.56
41)m 1,2-DICHLOROPROPA	0.274	0.181	0.218	0.165	0.206	0.233	0.283	0.223	19.82
42)m BROMODICHLOROMETH	0.530	0.454	0.419	0.370	0.453	0.515	0.555	0.471	13.99
43)m 2,2,4-TRIMETHYLPE	1.341	0.993	1.117	0.930	1.051	1.117	1.118	1.095	11.88
44)m 1,4-DIOXANE		0.093	0.075	0.068	0.073	0.090	0.089	0.081	12.98
45)m METHYL METHACRYLA	0.245	0.182	0.211	0.179	0.186	0.228	0.243	0.210	13.77

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1373-ICC1373
Lab FileID: J26580.D

```
46)m HEPTANE           0.503 0.391 0.390 0.318 0.360 0.391 0.413 0.395  14.28
47)m METHYL ISOBUTYL K       0.369 0.313 0.265 0.274 0.342 0.349 0.319  13.24
48)m cis-1,3-DICHLOROP 0.346 0.261 0.304 0.255 0.319 0.374 0.436 0.328  19.52
49)m TOLUENE           0.586 0.386 0.462 0.367 0.414 0.486 0.592 0.471  19.31
50)m trans-1,3-DICHLOR 0.318 0.242 0.304 0.253 0.294 0.357 0.428 0.314  20.24
51)m 1,1,2-TRICHLOROET 0.358 0.236 0.233 0.188 0.214 0.250 0.302 0.254  22.58
52)m 1,3-DICHLOROPROPA       0.315 0.355 0.282 0.304 0.368 0.440 0.344  16.49

53) I   CHLOROBENZENE-D5      ----------------ISTD--------------------
54)m 2-HEXANONE             1.396 0.757 0.774 0.637 0.701 0.799 0.844  32.77
            ---- Linear regression ----  Coefficient =  0.9937
              Response Ratio = -0.04551 + 0.78907 *A

55)m TETRACHLOROETHYLE 1.345 1.281 0.879 0.895 0.813 0.845 1.016 1.010  21.46
56)m DIBROMOCHLOROMETH 1.825 1.641 1.108 1.099 1.110 1.161 1.474 1.345  22.31
57)m 1,2-DIBROMOETHANE 1.432 1.243 0.937 0.894 0.834 0.910 1.211 1.066  21.34
58)m 1,1,1,2-TETRACHLO 1.464 1.163 0.865 0.830 0.778 0.819 1.102 1.003  25.14
59)m CHLOROBENZENE     2.785 2.208 1.638 1.531 1.417 1.508 2.012 1.871  26.50
60)m ETHYLBENZENE      4.229 3.166 2.710 2.550 2.059 2.261 3.052 2.861  25.22
61)m m,p-XYLENE        1.741 1.325 1.104 1.039 0.836 0.926 1.243 1.174  25.76
62)m o-XYLENE          1.947 1.402 1.142 1.071 0.860 0.956 1.278 1.237  29.35
63)m STYRENE           2.547 2.052 1.586 1.545 1.273 1.434 1.929 1.766  24.83
64)m NONANE            2.484 1.682 1.611 1.532 1.390 1.423 1.795 1.702  21.88
65)m BROMOFORM               1.970 1.210 1.197 1.105 1.213 1.629 1.387  24.46
66)S 4-BROMOFLUOROBENZ 0.562 0.551 0.618 0.487 0.642 0.476 0.551 0.555  10.99
67)m 1,1,2,2-TETRACHLO 4.222 3.069 1.930 1.841 1.438 1.608 1.945 2.293  43.54
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.12294 + 1.19945 *A + 0.17840 *A^2

68)m ISOPROPYLBENZENE        4.279 3.390 3.212 2.514 2.767 3.573 3.289  18.98
69)m 2-CHLOROTOLUENE   5.224 3.483 2.542 2.401 1.947 2.138 2.898 2.947  38.16
            ---- Quadratic regression ----  Coefficient =  0.9991
              Response Ratio = 0.18923 + 1.36352 *A + 0.37015 *A^2

70)m 4-ETHYLTOLUENE    6.079 6.215 3.289 3.157 2.461 2.771 3.404 3.911  39.92
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.22259 + 2.01156 *A + 0.33334 *A^2

71)m 1,3,5-TRIMETHYLBE 6.420 6.333 3.178 3.013 2.302 2.578 3.151 3.853  45.48
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.23182 + 1.87056 *A + 0.30479 *A^2

72)m TERT-BUTYLBENZENE 6.590 6.460 3.337 3.174 2.443 2.728 3.260 3.999  43.88
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.22725 + 2.05111 *A + 0.28736 *A^2

73)m 1,2,4-TRIMETHYLBE 6.372 6.500 3.142 2.998 2.310 2.609 3.094 3.861  46.20
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.21384 + 1.96531 *A + 0.26845 *A^2

74)m m-DICHLOROBENZENE 4.130 4.271 1.875 1.855 1.500 1.737 2.290 2.523  46.41
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = 0.14901 + 1.10679 *A + 0.28607 *A^2

75)m BENZYL CHLORIDE   3.681 4.800 2.031 2.250 1.849 2.182 2.620 2.773  38.90
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = 0.10737 + 1.62559 *A + 0.24216 *A^2

76)m p-DICHLOROBENZENE 4.106 4.462 1.895 1.840 1.462 1.692 2.215 2.525  48.60
            ---- Quadratic regression ----  Coefficient =  0.9994
```

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1373-ICC1373
Lab FileID: J26580.D

```
              Response Ratio = 0.15481 + 1.08398 *A + 0.27270 *A^2

77)m SEC-BUTYLBENZENE        9.241 4.578 4.381 3.354 3.714 4.393 4.944  43.63
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.41889 + 2.71417 *A + 0.39331 *A^2

78)m 4-ISOPROPYLTOLUEN 7.803 7.971 3.907 3.764 2.916 3.263 3.668 4.756  45.52
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.23605 + 2.64321 *A + 0.24150 *A^2

79)m o-DICHLOROBENZENE 4.490 4.652 1.938 1.893 1.485 1.698 2.199 2.622  51.48
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.16339 + 1.10899 *A + 0.26182 *A^2

80)m n-BUTYLBENZENE    6.993 7.408 3.398 3.367 2.632 2.963 3.280 4.292  46.81
            ---- Quadratic regression ----  Coefficient =  0.9992
              Response Ratio = 0.19734 + 2.43775 *A + 0.19852 *A^2

81)m HEXACHLOROBUTADIE       2.993 1.144 1.065 0.867 0.983 1.320 1.396  57.13
            ---- Quadratic regression ----  Coefficient =  0.9997
              Response Ratio = 0.13840 + 0.55945 *A + 0.18122 *A^2

82)m 1,2,4-TRICHLOROBE 1.857 2.587 0.895 0.931 0.729 0.908 1.175 1.297  52.29
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.07023 + 0.57293 *A + 0.14612 *A^2

83)m NAPHTHALENE       4.913 7.831 2.603 2.697 2.182 2.714 3.388 3.761  53.28
            ---- Quadratic regression ----  Coefficient =  0.9993
              Response Ratio = 0.17932 + 1.82043 *A + 0.38138 *A^2

--------------------------------------------------------------------------------
(#) = Out of Range

          J140117T.M        Fri Jan 17 09:29:21 2014
```

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1374-ICV1373
Lab FileID: J26585A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140117\j26585A.D Vial: 1
Acq On : 17 Jan 2014 9:36 am Operator: AkinA
Sample : ICV1373-10(m043) Inst : MSJ
Misc : ms30971,msj1374,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	90	0.00	8.74
2	m	DICHLORODIFLUOROMETHANE	3.489	3.140	10.0	95	0.00	4.12
3	m	PROPYLENE	0.642	0.562	12.5	92	0.00	4.05
4	m	FREON 114	3.156	2.670	15.4	81	0.00	4.38
5	m	CHLOROMETHANE	0.757	0.661	12.7	86	0.00	4.29
6	m	VINYL CHLORIDE	0.984	0.858	12.8	83	0.00	4.51
7	m	1,3-BUTADIENE	0.565	0.502	11.2	81	0.00	4.64
8	m	BROMOMETHANE	1.126	0.972	13.7	81	0.00	4.91
9	m	CHLOROETHANE	0.428	0.377	11.9	80	0.00	5.07
10	m	ACROLEIN	0.179	0.156	12.8	81	0.00	5.52
11	m	TRICHLOROFLUOROMETHANE	3.034	2.585	14.8	82	0.00	5.79
12	m	ISOPROPYL ALCOHOL	1.364	0.989	27.5	84	0.00	5.90
13	m	ACETONE	0.878	0.685	22.0	85	0.00	5.65
14	m	ACRYLONITRILE	0.406	0.339	16.5	80	0.00	6.07
15	m	PENTANE	0.792	0.650	17.9	81	0.00	6.12
16	m	1,1-DICHLOROETHYLENE	1.141	0.948	16.9	79	0.00	6.40
17	m	CARBON DISULFIDE	2.578	2.143	16.9	82	0.00	6.85
18	m	ETHANOL	0.231	0.200	13.4	83	0.00	5.22
19	m	BROMOETHENE	1.128	0.974	13.7	80	0.00	5.40
20	m	METHYLENE CHLORIDE	0.999	0.791	20.8	81	0.00	6.51
21	m	3-CHLOROPROPENE	0.711	0.633	11.0	82	0.00	6.63
22	m	FREON 113	2.161	1.829	15.4	80	0.00	6.75
23	m	TRANS-1,2-DICHLOROETHYLEN	0.951	0.824	13.4	80	0.00	7.45
24	m	TERTIARY BUTYL ALCOHOL	1.519	1.192	21.5	83	0.01	6.49
25	m	METHYL TERTIARY BUTYL ETH	2.085	1.594	23.5	83	0.00	7.74
26	m	TETRAHYDROFURAN	0.670	0.534	20.3	81	0.00	9.41
27	m	HEXANE	1.407	1.145	18.6	79	0.00	8.77
28	m	VINYL ACETATE	1.728	1.214	29.7	82	0.00	7.79
29	m	1,1-DICHLOROETHANE	1.702	1.526	10.3	82	0.00	7.65
30	m	METHYL ETHYL KETONE	1.273	0.960	24.6	86	0.00	8.11
31	m	cis-1,2-DICHLOROETHYLENE	1.136	1.002	11.8	78	0.00	8.55
32	m	ETHYL ACETATE	1.299	1.195	8.0	84	0.00	8.80
33	m	CHLOROFORM	2.281	1.991	12.7	81	0.00	8.88
34	m	1,1,1-TRICHLOROETHANE	2.360	2.063	12.6	80	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.727	2.213	18.8	77	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.188	1.018	14.3	76	0.00	9.75
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	80	0.00	11.05
38	m	BENZENE	0.581	0.493	15.1	69	0.00	10.64
39	m	CYCLOHEXANE	0.295	0.237	19.7	71	0.00	10.98
40	m	TRICHLOROETHYLENE	0.378	0.294	22.2	71	0.00	12.01
41	m	1,2-DICHLOROPROPANE	0.223	0.158	29.1	62	0.00	11.70

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1374-ICV1373
Lab FileID: J26585A.D

42	m	BROMODICHLOROMETHANE	0.471	0.396	15.9	70	0.00	11.96
43	m	2,2,4-TRIMETHYLPENTANE	1.095	0.854	22.0	65	0.00	12.04
44	m	1,4-DIOXANE	0.081	0.058	28.4	63	0.00	12.10
45	m	METHYL METHACRYLATE	0.210	0.153	27.1	66	0.00	12.28
46	m	HEPTANE	0.395	0.279	29.4	62	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.319	0.281	11.9	82	0.00	13.33
48	m	cis-1,3-DICHLOROPROPENE	0.328	0.306	6.7	77	0.00	13.23
49	m	TOLUENE	0.471	0.397	15.7	77	0.00	14.73
50	m	trans-1,3-DICHLOROPROPENE	0.314	0.290	7.6	79	0.00	14.01
51	m	1,1,2-TRICHLOROETHANE	0.254	0.208	18.1	78	0.00	14.29
52	m	1,3-DICHLOROPROPANE	0.344	0.310	9.9	82	0.00	14.77
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	79	0.00	17.72
		---------- Amount	Calc.	%Drift	----------			
54	m	2-HEXANONE	10.000	8.756	12.4	80	0.01	15.21
		---------- AvgRF	CCRF	%Dev	----------			
55	m	TETRACHLOROETHYLENE	1.010	0.820	18.8	79	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.345	1.092	18.8	77	0.00	15.42
57	m	1,2-DIBROMOETHANE	1.066	0.824	22.7	78	0.00	15.83
58	m	1,1,1,2-TETRACHLOROETHANE	1.003	0.753	24.9	76	0.00	17.77
59	m	CHLOROBENZENE	1.871	1.376	26.5	76	0.00	17.80
60	m	ETHYLBENZENE	2.861	2.144	25.1	82	0.00	18.49
61	m	m,p-XYLENE	1.174	0.871	25.8	82	0.00	18.84
62	m	o-XYLENE	1.237	0.907	26.7	83	0.00	19.74
63	m	STYRENE	1.766	1.333	24.5	82	0.00	19.52
64	m	NONANE	1.702	1.458	14.3	82	0.00	20.17
65	m	BROMOFORM	1.387	1.088	21.6	77	0.00	18.98
66	S	4-BROMOFLUOROBENZENE	0.555	0.486	12.4	60	0.00	20.64
		---------- Amount	Calc.	%Drift	----------			
67	m	1,1,2,2-TETRACHLOROETHANE	10.000	10.397	-4.0	86	0.01	19.73
		---------- AvgRF	CCRF	%Dev	----------			
68	m	ISOPROPYLBENZENE	3.289	2.691	18.2	84	0.00	20.93
		---------- Amount	Calc.	%Drift	----------			
69	m	2-CHLOROTOLUENE	10.000	10.620	-6.2	83	0.00	21.95
70	m	4-ETHYLTOLUENE	10.000	10.390	-3.9	85	0.00	22.36
71	m	1,3,5-TRIMETHYLBENZENE	10.000	10.441	-4.4	86	0.00	22.55
72	m	TERT-BUTYLBENZENE	10.000	10.420	-4.2	86	0.00	23.49
73	m	1,2,4-TRIMETHYLBENZENE	10.000	10.459	-4.6	87	0.00	23.51
74	m	m-DICHLOROBENZENE	10.000	10.351	-3.5	84	0.00	23.86
75	m	BENZYL CHLORIDE	10.000	10.404	-4.0	88	0.00	23.83
76	m	p-DICHLOROBENZENE	10.000	10.431	-4.3	85	0.00	24.03
77	m	SEC-BUTYLBENZENE	10.000	10.532	-5.3	87	0.00	24.15
78	m	4-ISOPROPYLTOLUENE	10.000	10.369	-3.7	87	0.00	24.52
79	m	o-DICHLOROBENZENE	10.000	10.457	-4.6	85	0.00	24.79
80	m	n-BUTYLBENZENE	10.000	10.426	-4.3	88	0.00	25.41
81	m	HEXACHLOROBUTADIENE	10.000	10.451	-4.5	84	-0.02	28.88
82	m	1,2,4-TRICHLOROBENZENE	10.000	9.632	3.7	82	-0.01	28.04
83	m	NAPHTHALENE	10.000	9.131	8.7	78	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26580.D J140117T.M Fri Jan 17 14:40:20 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1375-CC1373
Lab FileID: J26611.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140120\j26611.D Vial: 1
Acq On : 20 Jan 2014 1:54 pm Operator: AkinA
Sample : CC1373-10(m043) Inst : MSJ
Misc : ms30980,msj1375,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	93	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.489	3.534	-1.3	110	0.01	4.13
3	m	PROPYLENE	0.642	0.624	2.8	104	0.01	4.06
4	m	FREON 114	3.156	3.185	-0.9	99	0.01	4.39
5	m	CHLOROMETHANE	0.757	0.755	0.3	101	0.00	4.30
6	m	VINYL CHLORIDE	0.984	1.006	-2.2	101	0.00	4.52
7	m	1,3-BUTADIENE	0.565	0.605	-7.1	101	0.01	4.65
8	m	BROMOMETHANE	1.126	1.150	-2.1	99	0.00	4.92
9	m	CHLOROETHANE	0.428	0.438	-2.3	95	0.00	5.08
10	m	ACROLEIN	0.179	0.192	-7.3	102	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.034	3.221	-6.2	105	0.00	5.80
12	m	ISOPROPYL ALCOHOL	1.364	1.226	10.1	107	0.05	5.95
13	m	ACETONE	0.878	0.852	3.0	109	0.01	5.66
14	m	ACRYLONITRILE	0.406	0.429	-5.7	104	0.00	6.08
15	m	PENTANE	0.792	0.800	-1.0	102	0.00	6.13
16	m	1,1-DICHLOROETHYLENE	1.141	1.163	-1.9	100	0.00	6.41
17	m	CARBON DISULFIDE	2.578	2.658	-3.1	104	0.00	6.85
18	m	ETHANOL	0.231	0.242	-4.8	103	0.02	5.24
19	m	BROMOETHENE	1.128	1.161	-2.9	98	0.00	5.41
20	m	METHYLENE CHLORIDE	0.999	0.961	3.8	101	0.00	6.51
21	m	3-CHLOROPROPENE	0.711	0.796	-12.0	106	0.00	6.63
22	m	FREON 113	2.161	2.221	-2.8	100	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	0.951	1.010	-6.2	100	0.00	7.45
24	m	TERTIARY BUTYL ALCOHOL	1.519	1.515	0.3	108	0.06	6.54
25	m	METHYL TERTIARY BUTYL ETH	2.085	2.007	3.7	108	0.01	7.75
26	m	TETRAHYDROFURAN	0.670	0.645	3.7	101	0.02	9.43
27	m	HEXANE	1.407	1.321	6.1	94	0.00	8.77
28	m	VINYL ACETATE	1.728	1.590	8.0	111	0.01	7.80
29	m	1,1-DICHLOROETHANE	1.702	1.813	-6.5	101	0.01	7.67
30	m	METHYL ETHYL KETONE	1.273	1.227	3.6	113	0.02	8.12
31	m	cis-1,2-DICHLOROETHYLENE	1.136	1.160	-2.1	93	0.00	8.56
32	m	ETHYL ACETATE	1.299	1.249	3.8	90	0.02	8.82
33	m	CHLOROFORM	2.281	2.342	-2.7	98	0.00	8.88
34	m	1,1,1-TRICHLOROETHANE	2.360	2.485	-5.3	100	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.727	2.696	1.1	96	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.188	1.244	-4.7	95	0.01	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	84	0.01	11.06
38	m	BENZENE	0.581	0.563	3.1	83	0.00	10.64
39	m	CYCLOHEXANE	0.295	0.274	7.1	86	0.00	10.99
40	m	TRICHLOROETHYLENE	0.378	0.330	12.7	83	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.223	0.183	17.9	75	0.01	11.71

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1375-CC1373
Lab FileID: J26611.D

42	m	BROMODICHLOROMETHANE	0.471	0.461	2.1	85	0.01	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.095	0.951	13.2	76	0.00	12.05
44	m	1,4-DIOXANE	0.081	0.076	6.2	88	0.04	12.14
45	m	METHYL METHACRYLATE	0.210	0.181	13.8	82	0.02	12.30
46	m	HEPTANE	0.395	0.310	21.5	72	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.319	0.253	20.7	78	0.04	13.37
48	m	cis-1,3-DICHLOROPROPENE	0.328	0.296	9.8	78	0.01	13.23
49	m	TOLUENE	0.471	0.389	17.4	79	0.01	14.74
50	m	trans-1,3-DICHLOROPROPENE	0.314	0.286	8.9	82	0.02	14.02
51	m	1,1,2-TRICHLOROETHANE	0.254	0.204	19.7	80	0.02	14.31
52	m	1,3-DICHLOROPROPANE	0.344	0.300	12.8	83	0.02	14.78
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	69	0.02	17.74
		----------	Amount	Calc.	%Drift	----------		
54	m	2-HEXANONE	10.000	9.267	7.3	74	0.05	15.25
		----------	AvgRF	CCRF	%Dev	----------		
55	m	TETRACHLOROETHYLENE	1.010	1.046	-3.6	89	0.01	16.60
56	m	DIBROMOCHLOROMETHANE	1.345	1.378	-2.5	86	0.02	15.44
57	m	1,2-DIBROMOETHANE	1.066	1.029	3.5	85	0.02	15.85
58	m	1,1,1,2-TETRACHLOROETHANE	1.003	0.943	6.0	84	0.02	17.78
59	m	CHLOROBENZENE	1.871	1.673	10.6	81	0.02	17.81
60	m	ETHYLBENZENE	2.861	2.508	12.3	84	0.02	18.50
61	m	m,p-XYLENE	1.174	1.035	11.8	85	0.01	18.85
62	m	o-XYLENE	1.237	1.077	12.9	86	0.02	19.75
63	m	STYRENE	1.766	1.570	11.1	85	0.02	19.54
64	m	NONANE	1.702	1.342	21.2	67	0.02	20.19
65	m	BROMOFORM	1.387	1.463	-5.5	91	0.03	19.00
66	S	4-BROMOFLUOROBENZENE	0.555	0.478	13.9	51#	0.02	20.66
		----------	Amount	Calc.	%Drift	----------		
67	m	1,1,2,2-TETRACHLOROETHANE	10.000	11.888	-18.9	86	0.03	19.75
		----------	AvgRF	CCRF	%Dev	----------		
68	m	ISOPROPYLBENZENE	3.289	3.144	4.4	86	0.02	20.94
		----------	Amount	Calc.	%Drift	----------		
69	m	2-CHLOROTOLUENE	10.000	11.789	-17.9	82	0.02	21.96
70	m	4-ETHYLTOLUENE	10.000	12.041	-20.4	88	0.02	22.38
71	m	1,3,5-TRIMETHYLBENZENE	10.000	11.847	-18.5	86	0.02	22.57
72	m	TERT-BUTYLBENZENE	10.000	12.152	-21.5	89	0.02	23.50
73	m	1,2,4-TRIMETHYLBENZENE	10.000	11.865	-18.7	87	0.02	23.53
74	m	m-DICHLOROBENZENE	10.000	12.683	-26.8	93	0.02	23.87
75	m	BENZYL CHLORIDE	10.000	11.400	-14.0	85	0.02	23.84
76	m	p-DICHLOROBENZENE	10.000	12.591	-25.9	92	0.02	24.04
77	m	SEC-BUTYLBENZENE	10.000	12.071	-20.7	88	0.02	24.17
78	m	4-ISOPROPYLTOLUENE	10.000	12.052	-20.5	89	0.02	24.54
79	m	o-DICHLOROBENZENE	10.000	12.825	-28.2	94	0.01	24.80
80	m	n-BUTYLBENZENE	10.000	11.601	-16.0	86	0.01	25.41
81	m	HEXACHLOROBUTADIENE	10.000	11.920	-19.2	84	-0.01	28.89
82	m	1,2,4-TRICHLOROBENZENE	10.000	11.534	-15.3	87	0.00	28.05
83	m	NAPHTHALENE	10.000	10.288	-2.9	78	0.00	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26580.D J140117T.M Mon Jan 20 17:00:59 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1379-CC1373
Lab FileID: J26715.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140203\j26715.D Vial: 8
Acq On : 3 Feb 2014 3:52 pm Operator: AkinA
Sample : cc1373-10(m222) Inst : MSJ
Misc : ms31045,msj1379,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140117T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Jan 17 09:19:44 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	78	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.489	4.022	-15.3	105	0.01	4.13
3	m	PROPYLENE	0.642	0.746	-16.2	105	0.01	4.06
4	m	FREON 114	3.156	3.570	-13.1	93	0.01	4.39
5	m	CHLOROMETHANE	0.757	0.860	-13.6	96	0.01	4.30
6	m	VINYL CHLORIDE	0.984	1.126	-14.4	95	0.01	4.52
7	m	1,3-BUTADIENE	0.565	0.712	-26.0	100	0.02	4.66
8	m	BROMOMETHANE	1.126	1.320	-17.2	95	0.01	4.92
9	m	CHLOROETHANE	0.428	0.512	-19.6	93	0.01	5.08
10	m	ACROLEIN	0.179	0.230	-28.5	103	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.034	3.596	-18.5	98	0.01	5.81
12	m	ISOPROPYL ALCOHOL	1.364	1.378	-1.0	101	0.03	5.92
13	m	ACETONE	0.878	1.068	-21.6	115	0.01	5.66
14	m	ACRYLONITRILE	0.406	0.520	-28.1	106	0.00	6.08
15	m	PENTANE	0.792	0.913	-15.3	98	0.01	6.13
16	m	1,1-DICHLOROETHYLENE	1.141	1.315	-15.2	95	0.01	6.41
17	m	CARBON DISULFIDE	2.578	3.027	-17.4	100	0.01	6.86
18	m	ETHANOL	0.231	0.243	-5.2	87	0.02	5.24
19	m	BROMOETHENE	1.128	1.315	-16.6	93	0.01	5.42
20	m	METHYLENE CHLORIDE	0.999	1.099	-10.0	97	0.00	6.52
21	m	3-CHLOROPROPENE	0.711	0.940	-32.2#	105	0.01	6.64
22	m	FREON 113	2.161	2.485	-15.0	94	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	0.951	1.152	-21.1	96	0.00	7.45
24	m	TERTIARY BUTYL ALCOHOL	1.519	1.666	-9.7	100	0.04	6.51
25	m	METHYL TERTIARY BUTYL ETH	2.085	2.536	-21.6	114	0.01	7.75
26	m	TETRAHYDROFURAN	0.670	0.778	-16.1	102	0.01	9.42
27	m	HEXANE	1.407	1.549	-10.1	93	0.00	8.77
28	m	VINYL ACETATE	1.728	1.980	-14.6	116	0.01	7.80
29	m	1,1-DICHLOROETHANE	1.702	2.154	-26.6	101	0.01	7.67
30	m	METHYL ETHYL KETONE	1.273	1.475	-15.9	115	0.01	8.11
31	m	cis-1,2-DICHLOROETHYLENE	1.136	1.358	-19.5	91	0.00	8.56
32	m	ETHYL ACETATE	1.299	1.597	-22.9	97	0.02	8.81
33	m	CHLOROFORM	2.281	2.762	-21.1	97	0.01	8.89
34	m	1,1,1-TRICHLOROETHANE	2.360	2.879	-22.0	97	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.727	3.112	-14.1	93	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.188	1.414	-19.0	91	0.01	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	67	0.01	11.06
38	m	BENZENE	0.581	0.693	-19.3	81	0.00	10.64
39	m	CYCLOHEXANE	0.295	0.333	-12.9	83	0.00	10.99
40	m	TRICHLOROETHYLENE	0.378	0.417	-10.3	84	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.223	0.227	-1.8	73	0.01	11.71

Continuing Calibration Summary

Job Number: MC27979 **Sample:** MSJ1379-CC1373
Account: HMANNJP H2M Associates, Inc **Lab FileID:** J26715.D
Project: Macbeth, 617 Little Britain, New Windsor, NY

42	m	BROMODICHLOROMETHANE	0.471	0.569	-20.8	84	0.01	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.095	1.180	-7.8	75	0.00	12.05
44	m	1,4-DIOXANE	0.081	0.072	11.1	66	0.03	12.13
45	m	METHYL METHACRYLATE	0.210	0.233	-11.0	84	0.01	12.29
46	m	HEPTANE	0.395	0.391	1.0	72	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.319	0.289	9.4	70	0.02	13.35
48	m	cis-1,3-DICHLOROPROPENE	0.328	0.367	-11.9	77	0.01	13.23
49	m	TOLUENE	0.471	0.522	-10.8	84	0.00	14.73
50	m	trans-1,3-DICHLOROPROPENE	0.314	0.368	-17.2	83	0.01	14.02
51	m	1,1,2-TRICHLOROETHANE	0.254	0.254	0.0	79	0.01	14.30
52	m	1,3-DICHLOROPROPANE	0.344	0.386	-12.2	85	0.01	14.77
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	61	0.00	17.72
		----------	Amount	Calc.	%Drift		----------	
54	m	2-HEXANONE	10.000	8.313	16.9	58	0.03	15.23
		----------	AvgRF	CCRF	%Dev		----------	
55	m	TETRACHLOROETHYLENE	1.010	1.147	-13.6	85	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.345	1.484	-10.3	81	0.01	15.42
57	m	1,2-DIBROMOETHANE	1.066	1.136	-6.6	82	0.01	15.84
58	m	1,1,1,2-TETRACHLOROETHANE	1.003	1.031	-2.8	80	0.02	17.78
59	m	CHLOROBENZENE	1.871	1.852	1.0	79	0.01	17.81
60	m	ETHYLBENZENE	2.861	3.213	-12.3	95	0.01	18.50
61	m	m,p-XYLENE	1.174	1.247	-6.2	90	0.00	18.85
62	m	o-XYLENE	1.237	1.395	-12.8	98	0.01	19.74
63	m	STYRENE	1.766	1.730	2.0	82	0.01	19.53
64	m	NONANE	1.702	1.628	4.3	71	0.00	20.17
65	m	BROMOFORM	1.387	1.513	-9.1	83	0.02	18.99
66	S	4-BROMOFLUOROBENZENE	0.555	0.624	-12.4	59#	0.01	20.66
		----------	Amount	Calc.	%Drift		----------	
67	m	1,1,2,2-TETRACHLOROETHANE	10.000	11.864	-18.6	76	0.02	19.74
		----------	AvgRF	CCRF	%Dev		----------	
68	m	ISOPROPYLBENZENE	3.289	4.121	-25.3	99	0.01	20.94
		----------	Amount	Calc.	%Drift		----------	
69	m	2-CHLOROTOLUENE	10.000	12.484	-24.8	77	0.01	21.95
70	m	4-ETHYLTOLUENE	10.000	12.811	-28.1	82	0.01	22.37
71	m	1,3,5-TRIMETHYLBENZENE	10.000	15.491	-54.9#	102	0.01	22.56
72	m	TERT-BUTYLBENZENE	10.000	12.430	-24.3	80	0.01	23.50
73	m	1,2,4-TRIMETHYLBENZENE	10.000	12.142	-21.4	79	0.01	23.51
74	m	m-DICHLOROBENZENE	10.000	12.725	-27.2	82	0.01	23.86
75	m	BENZYL CHLORIDE	10.000	11.120	-11.2	73	0.01	23.84
76	m	p-DICHLOROBENZENE	10.000	12.681	-26.8	82	0.01	24.03
77	m	SEC-BUTYLBENZENE	10.000	12.322	-23.2	79	0.00	24.15
78	m	4-ISOPROPYLTOLUENE	10.000	16.469	-64.7#	109	0.01	24.53
79	m	o-DICHLOROBENZENE	10.000	12.228	-22.3	78	0.00	24.79
80	m	n-BUTYLBENZENE	10.000	11.446	-14.5	75	0.00	25.41
81	m	HEXACHLOROBUTADIENE	10.000	12.269	-22.7	77	-0.02	28.88
82	m	1,2,4-TRICHLOROBENZENE	10.000	11.118	-11.2	74	-0.01	28.04
83	m	NAPHTHALENE	10.000	16.156	-61.6#	114	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26580.D J140117T.M Tue Feb 04 17:05:52 2014

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICC1381
Lab FileID: J26761.D

Response Factor Report MSJ

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Initial Calibration

Calibration Files
.2 =j26758.D .5 =j26757.D 2 =j26763.D 5 =j26762.D
10 =j26761.D 20 =j26760.D 40 =j26759.D

Compound	.2	.5	2	5	10	20	40	Avg	%RSD
1) I BROMOCHLOROMETHANE	ISTD								
2)m DICHLORODIFLUOROM	4.932	3.634	4.359	3.647	2.983	3.470	3.118	3.735	18.47
3)m PROPYLENE	1.213	0.843	0.918	0.770	0.665	0.749	0.719	0.840	21.95
4)m FREON 114	5.146	4.098	4.883	3.608	2.886	3.639	2.992	3.893	22.40
5)m CHLOROMETHANE	1.343	1.015	1.174	0.931	0.744	0.947	0.882	1.005	19.68
6)m VINYL CHLORIDE	1.665	1.301	1.562	1.227	0.987	1.251	1.133	1.304	18.14
7)m 1,3-BUTADIENE	1.073	0.856	0.950	0.707	0.592	0.758	0.674	0.801	20.98
8)m BROMOMETHANE	1.717	1.484	1.818	1.393	1.149	1.435	1.234	1.461	16.49
9)m CHLOROETHANE	0.714	0.587	0.684	0.546	0.471	0.590	0.510	0.586	15.06
10)m ACROLEIN		0.218	0.301	0.284	0.251	0.286	0.283	0.271	11.26
11)m TRICHLOROFLUOROME	4.492	3.748	4.372	3.289	2.729	3.470	2.850	3.564	19.30
12)m ISOPROPYL ALCOHOL		1.446	1.586	1.417	1.303	1.489	1.470	1.452	6.40
13)m ACETONE		1.036	1.068	0.965	0.880	0.980	0.967	0.983	6.64
14)m ACRYLONITRILE		0.368	0.643	0.591	0.530	0.609	0.597	0.556	17.84
15)m PENTANE	1.498	1.248	1.260	0.948	0.815	1.031	0.894	1.099	22.18
16)m 1,1-DICHLOROETHYL	2.044	1.578	1.843	1.416	1.213	1.482	1.240	1.545	19.81
17)m CARBON DISULFIDE	4.680	3.617	4.239	3.209	2.743	3.275	2.854	3.517	20.36
18)m ETHANOL		0.268	0.327	0.317	0.287	0.327	0.319	0.308	7.88
19)m BROMOETHENE	1.699	1.479	1.817	1.387	1.167	1.464	1.217	1.461	16.17
20)m METHYLENE CHLORID	1.935	1.349	1.416	1.174	1.024	1.226	1.078	1.315	23.34
21)m 3-CHLOROPROPENE	1.010	0.959	0.852	0.740	0.705	0.851	0.871	0.855	12.70
22)m FREON 113	3.116	2.543	2.846	2.407	2.153	2.580	2.123	2.538	14.10
23)m TRANS-1,2-DICHLOR	1.636	1.203	1.516	1.239	1.113	1.326	1.148	1.312	14.95
24)m TERTIARY BUTYL AL		1.694	1.845	1.644	1.540	1.700	1.693	1.686	5.85
25)m METHYL TERTIARY B	3.356	2.386	2.740	2.425	2.248	2.452	2.372	2.569	14.72
26)m TETRAHYDROFURAN	1.216	0.905	1.004	0.935	0.855	0.967	0.947	0.976	11.88
27)m HEXANE	2.394	1.709	1.997	1.677	1.508	1.827	1.588	1.814	16.61
28)m VINYL ACETATE		2.235	2.438	1.898	1.782	2.007	2.122	2.080	11.40
29)m 1,1-DICHLOROETHAN	2.389	1.862	2.131	1.895	1.816	2.144	2.077	2.045	9.88
30)m METHYL ETHYL KETO		1.482	1.485	1.378	1.359	1.549	1.580	1.472	6.04
31)m cis-1,2-DICHLOROE	1.679	1.211	1.614	1.455	1.312	1.574	1.420	1.467	11.47
32)m ETHYL ACETATE		1.625	1.581	2.500	2.352	1.766	1.607	1.905	21.58
33)m CHLOROFORM	3.034	2.362	2.781	2.626	2.434	2.840	2.639	2.674	8.74
34)m 1,1,1-TRICHLOROET	3.107	2.423	2.843	2.678	2.478	2.943	2.667	2.734	9.02
35)m CARBON TETRACHLOR	3.272	2.512	3.150	2.786	2.585	3.108	2.755	2.881	10.28
36)m 1,2-DICHLOROETHAN	1.340	1.041	1.378	1.247	1.124	1.443	1.459	1.290	12.39
37) I 1,4-DIFLUOROBENZENE	ISTD								
38)m BENZENE	0.913	0.614	0.735	0.672	0.605	0.746	0.705	0.713	14.57
39)m CYCLOHEXANE	0.436	0.335	0.372	0.329	0.297	0.357	0.295	0.346	14.09
40)m TRICHLOROETHYLENE	0.487	0.363	0.425	0.413	0.375	0.409	0.342	0.402	11.95
41)m 1,2-DICHLOROPROPA	0.304	0.207	0.262	0.241	0.213	0.252	0.244	0.246	13.19
42)m BROMODICHLOROMETH	0.491	0.361	0.468	0.456	0.433	0.529	0.478	0.459	11.43
43)m 2,2,4-TRIMETHYLPE	1.610	1.098	1.295	1.206	1.078	1.185	0.965	1.206	17.19
44)m 1,4-DIOXANE		0.093	0.069	0.079	0.078	0.096	0.078	0.082	12.63
45)m METHYL METHACRYLA		0.168	0.215	0.219	0.211	0.238	0.189	0.207	12.02

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICC1381
Lab FileID: J26761.D

46)m HEPTANE	0.545	0.395	0.439	0.396	0.357	0.403	0.358	0.413	15.60
47)m METHYL ISOBUTYL K		0.356	0.326	0.301	0.282	0.329	0.309	0.317	8.11
48)m cis-1,3-DICHLOROP	0.341	0.266	0.382	0.368	0.332	0.400	0.385	0.354	12.88
49)m TOLUENE	0.613	0.424	0.554	0.518	0.470	0.535	0.504	0.517	11.71
50)m trans-1,3-DICHLOR	0.298	0.244	0.372	0.363	0.326	0.385	0.368	0.336	15.07
51)m 1,1,2-TRICHLOROET	0.268	0.200	0.277	0.264	0.239	0.276	0.264	0.255	10.79
52)m 1,3-DICHLOROPROPA	0.402	0.304	0.416	0.395	0.358	0.405	0.380	0.380	10.09
53) I CHLOROBENZENE-D5	----------ISTD----------								
54)m 2-HEXANONE		0.708	0.710	0.554	0.632	0.550	0.619	0.629	11.20
55)m TETRACHLOROETHYLE	1.172	0.715	0.951	0.800	0.915	0.762	0.875	0.884	17.21
56)m DIBROMOCHLOROMETH	1.127	0.694	1.144	0.970	1.110	0.999	1.216	1.037	16.73
57)m 1,2-DIBROMOETHANE	1.072	0.711	1.111	0.912	1.003	0.854	1.042	0.958	14.72
58)m 1,1,1,2-TETRACHLO	0.967	0.570	0.893	0.737	0.832	0.716	0.873	0.798	16.71
59)m CHLOROBENZENE	1.999	1.218	1.821	1.478	1.635	1.382	1.669	1.600	16.57
60)m ETHYLBENZENE	3.568	2.052	2.967	2.387	2.643	2.102	2.499	2.603	20.32
61)m m,p-XYLENE	1.358	0.817	1.220	0.990	1.109	0.883	1.027	1.058	17.80
62)m o-XYLENE	1.424	0.844	1.257	1.015	1.142	0.910	1.070	1.095	18.31
63)m STYRENE	1.987	1.206	1.848	1.545	1.765	1.424	1.730	1.644	16.32
64)m NONANE	2.181	1.179	1.642	1.278	1.411	1.158	1.446	1.471	24.16
65)m BROMOFORM	0.964	0.639	1.201	1.036	1.235	1.077	1.327	1.069	21.21
66)S 4-BROMOFLUOROBENZ	0.499	0.760	0.604	0.775	0.561	0.767	0.512	0.640	19.42
67)m 1,1,2,2-TETRACHLO	2.675	1.577	2.253	1.807	2.053	1.611	1.912	1.984	19.48
68)m ISOPROPYLBENZENE	4.266	2.501	3.652	2.943	3.299	2.581	2.961	3.172	19.69
69)m 2-CHLOROTOLUENE	3.403	2.000	2.949	2.363	2.664	2.168	2.486	2.576	18.63
70)m 4-ETHYLTOLUENE	3.950	2.454	3.728	3.065	3.514	2.741	3.203	3.236	16.53
71)m 1,3,5-TRIMETHYLBE	4.219	2.454	3.560	2.871	3.266	2.553	2.915	3.120	19.81
72)m TERT-BUTYLBENZENE	4.492	2.580	3.691	3.019	3.452	2.673	3.032	3.277	20.30
73)m 1,2,4-TRIMETHYLBE	4.101	2.494	3.656	3.008	3.459	2.680	3.041	3.206	17.63
74)m m-DICHLOROBENZENE	2.457	1.579	2.426	2.037	2.408	1.938	2.281	2.161	15.08
75)m BENZYL CHLORIDE	2.391	1.859	2.840	2.464	3.060	2.457	2.805	2.554	15.40
76)m p-DICHLOROBENZENE	2.635	1.674	2.487	2.057	2.421	1.926	2.248	2.207	15.42
77)m SEC-BUTYLBENZENE	6.251	3.659	5.259	4.245	4.843	3.655	3.842	4.536	21.43
78)m 4-ISOPROPYLTOLUEN	5.178	3.103	4.413	3.642	4.221	3.188	3.285	3.861	19.99
79)m o-DICHLOROBENZENE	2.942	1.826	2.545	2.087	2.457	1.948	2.224	2.290	16.88
80)m n-BUTYLBENZENE	5.136	3.114	4.385	3.637	4.252	3.193	2.946	3.809	21.23
81)m HEXACHLOROBUTADIE	2.805	1.576	1.849	1.571	1.998	1.529		1.888	25.75
82)m 1,2,4-TRICHLOROBE	1.758	1.224	1.770	1.448	1.995	1.661		1.643	16.49
83)m NAPHTHALENE	4.237	3.550	4.485	3.503	5.031	3.885		4.115	14.32

(#) = Out of Range

J140211T.M Wed Feb 12 10:34:37 2014

6.9.5

6

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-CC1381
Lab FileID: J26766.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140212\j26766.D Vial: 2
Acq On : 12 Feb 2014 1:34 pm Operator: jaclynb
Sample : cc1381-10(m031) Inst : MSJ
Misc : ms31073,msj1381,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	95	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.735	3.464	7.3	110	0.01	4.14
3	m	PROPYLENE	0.840	0.762	9.3	109	0.00	4.07
4	m	FREON 114	3.893	3.156	18.9	104	0.00	4.40
5	m	CHLOROMETHANE	1.005	0.909	9.6	116	0.00	4.31
6	m	VINYL CHLORIDE	1.304	1.148	12.0	111	0.00	4.53
7	m	1,3-BUTADIENE	0.801	0.650	18.9	104	0.00	4.66
8	m	BROMOMETHANE	1.461	1.234	15.5	102	0.00	4.93
9	m	CHLOROETHANE	0.586	0.490	16.4	99	0.00	5.09
10	m	ACROLEIN	0.271	0.253	6.6	96	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.564	2.880	19.2	100	0.00	5.81
12	m	ISOPROPYL ALCOHOL	1.452	1.368	5.8	100	0.00	5.95
13	m	ACETONE	0.983	0.896	8.9	97	0.01	5.67
14	m	ACRYLONITRILE	0.556	0.535	3.8	96	0.00	6.09
15	m	PENTANE	1.099	0.893	18.7	104	0.00	6.14
16	m	1,1-DICHLOROETHYLENE	1.545	1.235	20.1	97	0.00	6.41
17	m	CARBON DISULFIDE	3.517	2.958	15.9	103	0.00	6.86
18	m	ETHANOL	0.308	0.289	6.2	96	0.02	5.26
19	m	BROMOETHENE	1.461	1.199	17.9	98	0.00	5.42
20	m	METHYLENE CHLORIDE	1.315	1.049	20.2	97	0.00	6.52
21	m	3-CHLOROPROPENE	0.855	0.740	13.5	100	0.00	6.64
22	m	FREON 113	2.538	2.082	18.0	92	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	1.312	1.099	16.2	94	0.00	7.46
24	m	TERTIARY BUTYL ALCOHOL	1.686	1.610	4.5	99	0.00	6.54
25	m	METHYL TERTIARY BUTYL ETH	2.569	2.234	13.0	94	0.00	7.75
26	m	TETRAHYDROFURAN	0.976	0.876	10.2	97	0.00	9.43
27	m	HEXANE	1.814	1.541	15.0	97	0.00	8.77
28	m	VINYL ACETATE	2.080	1.809	13.0	96	0.00	7.81
29	m	1,1-DICHLOROETHANE	2.045	1.900	7.1	99	0.00	7.67
30	m	METHYL ETHYL KETONE	1.472	1.412	4.1	99	0.00	8.12
31	m	cis-1,2-DICHLOROETHYLENE	1.467	1.287	12.3	93	0.00	8.56
32	m	ETHYL ACETATE	1.905	1.422	25.4	57#	0.00	8.82
33	m	CHLOROFORM	2.674	2.377	11.1	93	0.00	8.89
34	m	1,1,1-TRICHLOROETHANE	2.734	2.367	13.4	91	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.881	2.362	18.0	87	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.290	1.108	14.1	94	0.00	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	97	0.00	11.06
38	m	BENZENE	0.713	0.576	19.2	92	0.00	10.64
39	m	CYCLOHEXANE	0.346	0.281	18.8	92	0.00	10.99
40	m	TRICHLOROETHYLENE	0.402	0.352	12.4	91	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.246	0.203	17.5	92	0.00	11.71

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-CC1381
Lab FileID: J26766.D

42	m	BROMODICHLOROMETHANE	0.459	0.409	10.9	92	0.00	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.206	1.041	13.7	94	0.00	12.05
44	m	1,4-DIOXANE	0.082	0.074	9.8	92	0.02	12.14
45	m	METHYL METHACRYLATE	0.207	0.202	2.4	93	0.00	12.30
46	m	HEPTANE	0.413	0.356	13.8	97	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.317	0.287	9.5	99	0.01	13.37
48	m	cis-1,3-DICHLOROPROPENE	0.354	0.305	13.8	89	0.00	13.23
49	m	TOLUENE	0.517	0.425	17.8	88	0.00	14.74
50	m	trans-1,3-DICHLOROPROPENE	0.336	0.297	11.6	88	0.00	14.02
51	m	1,1,2-TRICHLOROETHANE	0.255	0.219	14.1	89	0.00	14.30
52	m	1,3-DICHLOROPROPANE	0.380	0.331	12.9	90	0.00	14.78
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	110	0.00	17.73
54	m	2-HEXANONE	0.629	0.557	11.4	97	0.02	15.25
55	m	TETRACHLOROETHYLENE	0.884	0.722	18.3	87	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.037	0.855	17.6	84	0.00	15.43
57	m	1,2-DIBROMOETHANE	0.958	0.793	17.2	87	-0.01	15.84
58	m	1,1,1,2-TETRACHLOROETHANE	0.798	0.639	19.9	84	0.00	17.78
59	m	CHLOROBENZENE	1.600	1.292	19.3	87	0.00	17.81
60	m	ETHYLBENZENE	2.603	2.101	19.3	87	0.00	18.50
61	m	m,p-XYLENE	1.058	0.865	18.2	86	0.00	18.85
62	m	o-XYLENE	1.095	0.900	17.8	86	0.00	19.74
63	m	STYRENE	1.644	1.372	16.5	85	0.00	19.54
64	m	NONANE	1.471	1.223	16.9	95	0.00	20.18
65	m	BROMOFORM	1.069	0.890	16.7	79	0.00	18.99
66	S	4-BROMOFLUOROBENZENE	0.640	0.727	-13.6	142#	0.00	20.66
67	m	1,1,2,2-TETRACHLOROETHANE	1.984	1.652	16.7	88	0.00	19.75
68	m	ISOPROPYLBENZENE	3.172	2.607	17.8	87	0.00	20.94
69	m	2-CHLOROTOLUENE	2.576	2.107	18.2	87	0.00	21.95
70	m	4-ETHYLTOLUENE	3.236	2.750	15.0	86	0.00	22.38
71	m	1,3,5-TRIMETHYLBENZENE	3.120	2.571	17.6	86	0.00	22.57
72	m	TERT-BUTYLBENZENE	3.277	2.715	17.1	86	0.00	23.50
73	m	1,2,4-TRIMETHYLBENZENE	3.206	2.737	14.6	87	0.00	23.52
74	m	m-DICHLOROBENZENE	2.161	1.819	15.8	83	0.00	23.87
75	m	BENZYL CHLORIDE	2.554	2.223	13.0	80	0.00	23.84
76	m	p-DICHLOROBENZENE	2.207	1.796	18.6	81	0.00	24.04
77	m	SEC-BUTYLBENZENE	4.536	3.823	15.7	87	0.00	24.16
78	m	4-ISOPROPYLTOLUENE	3.861	3.312	14.2	86	0.00	24.53
79	m	o-DICHLOROBENZENE	2.290	1.856	19.0	83	0.00	24.80
80	m	n-BUTYLBENZENE	3.809	3.343	12.2	86	0.00	25.41
81	m	HEXACHLOROBUTADIENE	1.888	1.367	27.6	75	-0.01	28.88
82	m	1,2,4-TRICHLOROBENZENE	1.643	1.319	19.7	73	0.00	28.05
83	m	NAPHTHALENE	4.115	3.428	16.7	75	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0

j26761.D J140211T.M Thu Feb 13 11:53:44 2014

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICV1381
Lab FileID: J26766A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140212\j26766a.D Vial: 2
Acq On : 12 Feb 2014 1:34 pm Operator: jaclynb
Sample : icv1381-10(m031) Inst : MSJ
Misc : ms31073,msj1381,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	95	0.00	8.75
2	m	DICHLORODIFLUOROMETHANE	3.735	3.464	7.3	110	0.01	4.14
3	m	PROPYLENE	0.840	0.762	9.3	109	0.00	4.07
4	m	FREON 114	3.893	3.156	18.9	104	0.00	4.40
5	m	CHLOROMETHANE	1.005	0.909	9.6	116	0.00	4.31
6	m	VINYL CHLORIDE	1.304	1.148	12.0	111	0.00	4.53
7	m	1,3-BUTADIENE	0.801	0.650	18.9	104	0.00	4.66
8	m	BROMOMETHANE	1.461	1.234	15.5	102	0.00	4.93
9	m	CHLOROETHANE	0.586	0.490	16.4	99	0.00	5.09
10	m	ACROLEIN	0.271	0.253	6.6	96	0.00	5.53
11	m	TRICHLOROFLUOROMETHANE	3.564	2.880	19.2	100	0.00	5.81
12	m	ISOPROPYL ALCOHOL	1.452	1.368	5.8	100	0.00	5.95
13	m	ACETONE	0.983	0.896	8.9	97	0.01	5.67
14	m	ACRYLONITRILE	0.556	0.535	3.8	96	0.00	6.09
15	m	PENTANE	1.099	0.893	18.7	104	0.00	6.14
16	m	1,1-DICHLOROETHYLENE	1.545	1.235	20.1	97	0.00	6.41
17	m	CARBON DISULFIDE	3.517	2.958	15.9	103	0.00	6.86
18	m	ETHANOL	0.308	0.289	6.2	96	0.02	5.26
19	m	BROMOETHENE	1.461	1.199	17.9	98	0.00	5.42
20	m	METHYLENE CHLORIDE	1.315	1.049	20.2	97	0.00	6.52
21	m	3-CHLOROPROPENE	0.855	0.740	13.5	100	0.00	6.64
22	m	FREON 113	2.538	2.082	18.0	92	0.00	6.77
23	m	TRANS-1,2-DICHLOROETHYLEN	1.312	1.099	16.2	94	0.00	7.46
24	m	TERTIARY BUTYL ALCOHOL	1.686	1.610	4.5	99	0.00	6.54
25	m	METHYL TERTIARY BUTYL ETH	2.569	2.234	13.0	94	0.00	7.75
26	m	TETRAHYDROFURAN	0.976	0.876	10.2	97	0.00	9.43
27	m	HEXANE	1.814	1.541	15.0	97	0.00	8.77
28	m	VINYL ACETATE	2.080	1.809	13.0	96	0.00	7.81
29	m	1,1-DICHLOROETHANE	2.045	1.900	7.1	99	0.00	7.67
30	m	METHYL ETHYL KETONE	1.472	1.412	4.1	99	0.00	8.12
31	m	cis-1,2-DICHLOROETHYLENE	1.467	1.287	12.3	93	0.00	8.56
32	m	ETHYL ACETATE	1.905	1.422	25.4	57#	0.00	8.82
33	m	CHLOROFORM	2.674	2.377	11.1	93	0.00	8.89
34	m	1,1,1-TRICHLOROETHANE	2.734	2.367	13.4	91	0.00	10.06
35	m	CARBON TETRACHLORIDE	2.881	2.362	18.0	87	0.00	10.82
36	m	1,2-DICHLOROETHANE	1.290	1.108	14.1	94	0.00	9.76
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	97	0.00	11.06
38	m	BENZENE	0.713	0.576	19.2	92	0.00	10.64
39	m	CYCLOHEXANE	0.346	0.281	18.8	92	0.00	10.99
40	m	TRICHLOROETHYLENE	0.402	0.352	12.4	91	0.00	12.02
41	m	1,2-DICHLOROPROPANE	0.246	0.203	17.5	92	0.00	11.71

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1381-ICV1381
Lab FileID: J26766A.D

42	m	BROMODICHLOROMETHANE	0.459	0.409	10.9	92	0.00	11.97
43	m	2,2,4-TRIMETHYLPENTANE	1.206	1.041	13.7	94	0.00	12.05
44	m	1,4-DIOXANE	0.082	0.074	9.8	92	0.02	12.14
45	m	METHYL METHACRYLATE	0.207	0.202	2.4	93	0.00	12.30
46	m	HEPTANE	0.413	0.356	13.8	97	0.00	12.39
47	m	METHYL ISOBUTYL KETONE	0.317	0.287	9.5	99	0.01	13.37
48	m	cis-1,3-DICHLOROPROPENE	0.354	0.305	13.8	89	0.00	13.23
49	m	TOLUENE	0.517	0.425	17.8	88	0.00	14.74
50	m	trans-1,3-DICHLOROPROPENE	0.336	0.297	11.6	88	0.00	14.02
51	m	1,1,2-TRICHLOROETHANE	0.255	0.219	14.1	89	0.00	14.30
52	m	1,3-DICHLOROPROPANE	0.380	0.331	12.9	90	0.00	14.78
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	110	0.00	17.73
54	m	2-HEXANONE	0.629	0.557	11.4	97	0.02	15.25
55	m	TETRACHLOROETHYLENE	0.884	0.722	18.3	87	0.00	16.60
56	m	DIBROMOCHLOROMETHANE	1.037	0.855	17.6	84	0.00	15.43
57	m	1,2-DIBROMOETHANE	0.958	0.793	17.2	87	-0.01	15.84
58	m	1,1,1,2-TETRACHLOROETHANE	0.798	0.639	19.9	84	0.00	17.78
59	m	CHLOROBENZENE	1.600	1.292	19.3	87	0.00	17.81
60	m	ETHYLBENZENE	2.603	2.101	19.3	87	0.00	18.50
61	m	m,p-XYLENE	1.058	0.865	18.2	86	0.00	18.85
62	m	o-XYLENE	1.095	0.900	17.8	86	0.00	19.74
63	m	STYRENE	1.644	1.372	16.5	85	0.00	19.54
64	m	NONANE	1.471	1.223	16.9	95	0.00	20.18
65	m	BROMOFORM	1.069	0.890	16.7	79	0.00	18.99
66	S	4-BROMOFLUOROBENZENE	0.640	0.727	-13.6	142#	0.00	20.66
67	m	1,1,2,2-TETRACHLOROETHANE	1.984	1.652	16.7	88	0.00	19.75
68	m	ISOPROPYLBENZENE	3.172	2.607	17.8	87	0.00	20.94
69	m	2-CHLOROTOLUENE	2.576	2.107	18.2	87	0.00	21.95
70	m	4-ETHYLTOLUENE	3.236	2.750	15.0	86	0.00	22.38
71	m	1,3,5-TRIMETHYLBENZENE	3.120	2.571	17.6	86	0.00	22.57
72	m	TERT-BUTYLBENZENE	3.277	2.715	17.1	86	0.00	23.50
73	m	1,2,4-TRIMETHYLBENZENE	3.206	2.737	14.6	87	0.00	23.52
74	m	m-DICHLOROBENZENE	2.161	1.819	15.8	83	0.00	23.87
75	m	BENZYL CHLORIDE	2.554	2.223	13.0	80	0.00	23.84
76	m	p-DICHLOROBENZENE	2.207	1.796	18.6	81	0.00	24.04
77	m	SEC-BUTYLBENZENE	4.536	3.823	15.7	87	0.00	24.16
78	m	4-ISOPROPYLTOLUENE	3.861	3.312	14.2	86	0.00	24.53
79	m	o-DICHLOROBENZENE	2.290	1.856	19.0	83	0.00	24.80
80	m	n-BUTYLBENZENE	3.809	3.343	12.2	86	0.00	25.41
81	m	HEXACHLOROBUTADIENE	1.888	1.367	27.6	75	-0.01	28.88
82	m	1,2,4-TRICHLOROBENZENE	1.643	1.319	19.7	73	0.00	28.05
83	m	NAPHTHALENE	4.115	3.428	16.7	75	-0.01	28.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26761.D J140211T.M Thu Feb 13 11:58:07 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSJ1382-CC1381
Lab FileID: J26779.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\J140214\j26779.D Vial: 4
Acq On : 14 Feb 2014 7:08 am Operator: jaclynb
Sample : cc1381-10(m031) Inst : MSJ
Misc : ms31124,msj1382,,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\J140211T.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Wed Feb 12 10:20:55 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	75	0.00	8.76
2	m	DICHLORODIFLUOROMETHANE	3.735	3.972	-6.3	100	0.02	4.15
3	m	PROPYLENE	0.840	1.001	-19.2	113	0.02	4.08
4	m	FREON 114	3.893	4.191	-7.7	109	0.02	4.41
5	m	CHLOROMETHANE	1.005	1.221	-21.5	123	0.01	4.32
6	m	VINYL CHLORIDE	1.304	1.507	-15.6	115	0.01	4.53
7	m	1,3-BUTADIENE	0.801	1.007	-25.7	128	0.01	4.67
8	m	BROMOMETHANE	1.461	1.487	-1.8	97	0.01	4.94
9	m	CHLOROETHANE	0.586	0.621	-6.0	99	0.01	5.09
10	m	ACROLEIN	0.271	0.305	-12.5	91	0.02	5.54
11	m	TRICHLOROFLUOROMETHANE	3.564	3.617	-1.5	100	0.01	5.82
12	m	ISOPROPYL ALCOHOL	1.452	1.651	-13.7	95	0.05	6.00
13	m	ACETONE	0.983	1.134	-15.4	97	0.02	5.68
14	m	ACRYLONITRILE	0.556	0.661	-18.9	94	0.01	6.10
15	m	PENTANE	1.099	1.272	-15.7	117	0.01	6.15
16	m	1,1-DICHLOROETHYLENE	1.545	1.370	11.3	85	0.01	6.43
17	m	CARBON DISULFIDE	3.517	3.643	-3.6	100	0.01	6.87
18	m	ETHANOL	0.308	0.352	-14.3	92	0.06	5.29
19	m	BROMOETHENE	1.461	1.395	4.5	90	0.01	5.43
20	m	METHYLENE CHLORIDE	1.315	1.171	11.0	86	0.01	6.53
21	m	3-CHLOROPROPENE	0.855	1.090	-27.5	116	0.00	6.65
22	m	FREON 113	2.538	2.153	15.2	75	0.01	6.78
23	m	TRANS-1,2-DICHLOROETHYLEN	1.312	1.179	10.1	80	0.01	7.47
24	m	TERTIARY BUTYL ALCOHOL	1.686	1.759	-4.3	86	0.05	6.59
25	m	METHYL TERTIARY BUTYL ETH	2.569	2.394	6.8	80	0.02	7.76
26	m	TETRAHYDROFURAN	0.976	1.079	-10.6	95	0.03	9.45
27	m	HEXANE	1.814	1.822	-0.4	91	0.01	8.79
28	m	VINYL ACETATE	2.080	2.261	-8.7	95	0.01	7.82
29	m	1,1-DICHLOROETHANE	2.045	2.363	-15.6	98	0.01	7.68
30	m	METHYL ETHYL KETONE	1.472	1.792	-21.7	99	0.02	8.15
31	m	cis-1,2-DICHLOROETHYLENE	1.467	1.327	9.5	76	0.00	8.57
32	m	ETHYL ACETATE	1.905	1.800	5.5	57#	0.02	8.84
33	m	CHLOROFORM	2.674	2.667	0.3	82	0.00	8.90
34	m	1,1,1-TRICHLOROETHANE	2.734	2.628	3.9	80	0.00	10.08
35	m	CARBON TETRACHLORIDE	2.881	2.586	10.2	75	0.00	10.84
36	m	1,2-DICHLOROETHANE	1.290	1.463	-13.4	98	0.00	9.77
37	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	72	0.00	11.07
38	m	BENZENE	0.713	0.709	0.6	84	0.00	10.65
39	m	CYCLOHEXANE	0.346	0.309	10.7	75	0.00	10.99
40	m	TRICHLOROETHYLENE	0.402	0.366	9.0	70	0.00	12.03
41	m	1,2-DICHLOROPROPANE	0.246	0.258	-4.9	87	0.00	11.72

Continuing Calibration Summary

Job Number: MC27979 **Sample:** MSJ1382-CC1381
Account: HMANNJP H2M Associates, Inc **Lab FileID:** J26779.D
Project: Macbeth, 617 Little Britain, New Windsor, NY

42	m	BROMODICHLOROMETHANE	0.459	0.502	-9.4	83	0.00	11.98
43	m	2,2,4-TRIMETHYLPENTANE	1.206	1.289	-6.9	86	0.00	12.05
44	m	1,4-DIOXANE	0.082	0.067	18.3	61	0.08	12.19
45	m	METHYL METHACRYLATE	0.207	0.253	-22.2	86	0.02	12.32
46	m	HEPTANE	0.413	0.475	-15.0	96	0.00	12.41
47	m	METHYL ISOBUTYL KETONE	0.317	0.341	-7.6	87	0.05	13.40
48	m	cis-1,3-DICHLOROPROPENE	0.354	0.366	-3.4	79	0.00	13.25
49	m	TOLUENE	0.517	0.465	10.1	71	0.00	14.75
50	m	trans-1,3-DICHLOROPROPENE	0.336	0.350	-4.2	77	0.00	14.04
51	m	1,1,2-TRICHLOROETHANE	0.255	0.250	2.0	75	0.01	14.32
52	m	1,3-DICHLOROPROPANE	0.380	0.381	-0.3	76	0.02	14.80
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	74	0.01	17.74
54	m	2-HEXANONE	0.629	0.697	-10.8	81	0.07	15.29
55	m	TETRACHLOROETHYLENE	0.884	0.764	13.6	62	0.00	16.61
56	m	DIBROMOCHLOROMETHANE	1.037	1.068	-3.0	71	0.01	15.45
57	m	1,2-DIBROMOETHANE	0.958	0.947	1.1	70	0.01	15.87
58	m	1,1,1,2-TETRACHLOROETHANE	0.798	0.757	5.1	67	0.01	17.80
59	m	CHLOROBENZENE	1.600	1.507	5.8	68	0.00	17.82
60	m	ETHYLBENZENE	2.603	2.431	6.6	68	0.01	18.51
61	m	m,p-XYLENE	1.058	0.967	8.6	64	0.00	18.86
62	m	o-XYLENE	1.095	1.037	5.3	67	0.01	19.76
63	m	STYRENE	1.644	1.529	7.0	64	0.01	19.55
64	m	NONANE	1.471	1.752	-19.1	92	0.01	20.19
65	m	BROMOFORM	1.069	1.017	4.9	61	0.02	19.02
66	S	4-BROMOFLUOROBENZENE	0.640	0.487	23.9	64	0.01	20.67
67	m	1,1,2,2-TETRACHLOROETHANE	1.984	1.982	0.1	71	0.02	19.77
68	m	ISOPROPYLBENZENE	3.172	3.015	4.9	67	0.01	20.95
69	m	2-CHLOROTOLUENE	2.576	2.510	2.6	70	0.01	21.97
70	m	4-ETHYLTOLUENE	3.236	3.126	3.4	66	0.01	22.39
71	m	1,3,5-TRIMETHYLBENZENE	3.120	2.955	5.3	67	0.01	22.58
72	m	TERT-BUTYLBENZENE	3.277	3.092	5.6	66	0.01	23.51
73	m	1,2,4-TRIMETHYLBENZENE	3.206	3.174	1.0	68	0.01	23.53
74	m	m-DICHLOROBENZENE	2.161	1.997	7.6	61	0.01	23.89
75	m	BENZYL CHLORIDE	2.554	2.543	0.4	61	0.02	23.86
76	m	p-DICHLOROBENZENE	2.207	1.960	11.2	60#	0.01	24.05
77	m	SEC-BUTYLBENZENE	4.536	4.472	1.4	68	0.01	24.17
78	m	4-ISOPROPYLTOLUENE	3.861	3.810	1.3	67	0.00	24.54
79	m	o-DICHLOROBENZENE	2.290	2.037	11.0	61	0.01	24.81
80	m	n-BUTYLBENZENE	3.809	3.951	-3.7	69	0.00	25.42
81	m	HEXACHLOROBUTADIENE	1.888	1.380	26.9	51#	0.00	28.89
82	m	1,2,4-TRICHLOROBENZENE	1.643	1.199	27.0	44#	0.00	28.05
83	m	NAPHTHALENE	4.115	3.138	23.7	46#	0.00	28.25

(#) = Out of Range SPCC's out = 0 CCC's out = 0
j26761.D J140211T.M Fri Feb 14 11:12:01 2014

Initial Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSQ1121-ICC1121
Lab FileID: Q25746.D

Response Factor Report MSQ

Method : C:\msdchem\1\METHODS\Q140213SIM.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Feb 14 08:30:41 2014
Response via : Initial Calibration

Calibration Files
5 =Q25748.D 2 =Q25747.D 0.5 =Q25746.D 0.25=Q25745.D
0.1 =Q25744.D 0.05 =Q25743.D

		Compound	5	2	0.5	0.25	0.1	0.05	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	m	VINYL CHLORIDE	1.477	1.460	1.582	1.870	1.591	1.712	1.616	9.56
3)	m	CHLOROETHANE	0.654	0.638	0.638	0.789	0.791	0.840	0.725	12.61
4)	m	1,1-DICHLOROETHYLEN	1.477	1.429	1.435	1.788	1.635	1.740	1.584	10.02
5)	m	FREON 113	2.438	2.372	2.355	2.901	3.036	3.287	2.731	14.52
6)	m	TRANS-1,2-DICHLOROE	0.950	0.911	0.874	1.063	1.194	1.225	1.036	14.35
7)	m	1,1-DICHLOROETHANE	1.702	1.576	1.527	1.791	1.995	2.026	1.769	11.80
8)	m	1,1,1-TRICHLOROETHA	2.084	1.995	1.960	2.350	2.463	2.562	2.235	11.46
9)	m	1,2-DICHLOROETHANE	1.155	0.967	0.907	1.082	1.416	1.401	1.155	18.61
10)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
11)	m	TRICHLOROETHYLENE	0.323	0.359	0.348	0.413	0.518	0.565	0.421	23.48
12)	I	CHLOROBENZENE-D5	----------ISTD----------							
13)	m	TETRACHLOROETHYLENE	0.762	0.776	0.783	0.934	1.321	1.444	1.003	30.20
		---- Linear regression ---- Coefficient = 0.9999								
		Response Ratio = 0.00389 + 0.75379 *A								
14)	S	4-BROMOFLUOROBENZEN	1.129	1.189	1.169	1.161	1.162	1.182	1.165	1.78

(#) = Out of Range

Q140213SIM.M Fri Feb 14 09:14:01 2014

Initial Calibration Verification

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSQ1121-ICV1121
Lab FileID: Q25749A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\Q140213\Q25749a.D Vial: 5
Acq On : 13 Feb 2014 6:17 pm Operator: AkinA
Sample : ICV1121-0.5(M302) Inst : MSQ
Misc : ms31127,msq1121,,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\Q140213SIM.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Feb 14 08:30:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	100	0.00	8.87
2	m	VINYL CHLORIDE	1.616	1.643	-1.7	104	0.00	4.62
3	m	CHLOROETHANE	0.725	0.639	11.9	100	0.00	5.18
4	m	1,1-DICHLOROETHYLENE	1.584	1.460	7.8	101	0.00	6.53
5	m	FREON 113	2.731	2.310	15.4	98	0.00	6.88
6	m	TRANS-1,2-DICHLOROETHYLEN	1.036	0.898	13.3	102	0.00	7.57
7	m	1,1-DICHLOROETHANE	1.769	1.509	14.7	99	0.00	7.78
8	m	1,1,1-TRICHLOROETHANE	2.235	1.966	12.0	100	0.00	10.18
9	m	1,2-DICHLOROETHANE	1.155	0.927	19.7	102	0.00	9.86
10	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.00	11.16
11	m	TRICHLOROETHYLENE	0.421	0.350	16.9	99	0.00	12.12
12	I	CHLOROBENZENE-D5	1.000	1.000	0.0	99	0.00	17.81
		----------	Amount	Calc.	%Drift		----------	
13	m	TETRACHLOROETHYLENE	0.500	0.475	5.0	101	0.00	16.70
		----------	AvgRF	CCRF	%Dev		----------	
14	S	4-BROMOFLUOROBENZENE	1.165	1.189	-2.1	101	0.00	20.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Q25746.D Q140213SIM.M Fri Feb 14 09:47:50 2014

Continuing Calibration Summary

Job Number: MC27979
Account: HMANNJP H2M Associates, Inc
Project: Macbeth, 617 Little Britain, New Windsor, NY

Sample: MSQ1121-CC1121
Lab FileID: Q25749.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\Q140213\Q25749.D Vial: 5
Acq On : 13 Feb 2014 6:17 pm Operator: AkinA
Sample : CC1121-0.5(M302) Inst : MSQ
Misc : ms31127,msq1121,,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\Q140213SIM.M (RTE Integrator)
Title : TO15 by GCMS w/DB-1 60 m X .25 mm ID 1.0 um
Last Update : Fri Feb 14 08:30:41 2014
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	100	0.00	8.87
2	m	VINYL CHLORIDE	1.616	1.643	-1.7	104	0.00	4.62
3	m	CHLOROETHANE	0.725	0.639	11.9	100	0.00	5.18
4	m	1,1-DICHLOROETHYLENE	1.584	1.460	7.8	101	0.00	6.53
5	m	FREON 113	2.731	2.310	15.4	98	0.00	6.88
6	m	TRANS-1,2-DICHLOROETHYLEN	1.036	0.898	13.3	102	0.00	7.57
7	m	1,1-DICHLOROETHANE	1.769	1.509	14.7	99	0.00	7.78
8	m	1,1,1-TRICHLOROETHANE	2.235	1.966	12.0	100	0.00	10.18
9	m	1,2-DICHLOROETHANE	1.155	0.927	19.7	102	0.00	9.86
10	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	99	0.00	11.16
11	m	TRICHLOROETHYLENE	0.421	0.350	16.9	99	0.00	12.12
12	I	CHLOROBENZENE-D5	1.000	1.000	0.0	99	0.00	17.81
		----------	Amount	Calc.	%Drift		----------	
13	m	TETRACHLOROETHYLENE	0.500	0.475	5.0	101	0.00	16.70
		----------	AvgRF	CCRF	%Dev		----------	
14	S	4-BROMOFLUOROBENZENE	1.165	1.189	-2.1	101	0.00	20.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Q25746.D Q140213SIM.M Fri Feb 14 09:47:48 2014