SITE-SPECIFIC HEALTH AND SAFETY PLAN
MATHEWS AVENUE SITE

Prepared for

Honeywell International, Inc.

5000 Brittonfield Parkway

Suite 700

East Syracuse, New York 13057

MWH Project No. 4060312

By

MWH
MONTGOMERY WATSON HARZA

June 2002

MONTGOMERY WATSON HARZA PROJECT SITE SPECIFIC SAFETY PLAN

PROJECT MANAGER:

Name: Anthony M. Noce _____ (Signature) _____ (Date)

PROGRAM HEALTH AND SAFETY COORDINATOR (PHSC):

Name: Rick C. Foster _____ (Signature) _____ (Date)

PROJECT TEAM ORGANIZATION AND TRAINING (Add additional pages as needed):

Team Member	Work Assignment	Requisite Training Completed
1. Richard Hixon	Principal-In-Charge	
2. Gus Mergenthaler	Technical Advisory Committee Member	
3. Jim Rouse	Technical Advisory Committee Member	
4. Kenneth Quinn	Technical Advisory Committee Member	
5. David Broach	Task Manager	
6. Paul Romano	Project Engineer	
7. Michael Kierski	Risk Assessment Task Manager	
8. Anthony M. Noce	MWH Safety Officer	

All team members performing fieldwork must meet the training requirements specified in the Montgomery Watson Harza Safety and Health Procedure 701 (Hazardous Waste Operations: Training Requirements). This includes having taken a 40-hour health and safety training class, and an 8-hour refresher course in the previous year if a year has elapsed since taking the 40-hour training class. All on-site field team members shall have also taken a medical surveillance examination, which fulfills the requirements of 29 CFR 1910.120(f) in the previous year. The team member responsible for health and safety at the site must have completed an approved supervisory course in accordance with 29 CFR 1910.120 (e).

GENERAL INFORMATION:

Project Number: 4060312

Client Name: Honeywell International, Inc.

Client Contact: Alfred Labuz

Client Telephone Number: (315) 431-4443

Client Cell Number: (315) 420-3505

Site: Mathews Avenue Landfill

Location: Village of Solvay, Town of Geddes, New York

Proposed Start Date(s) of Investigation: May 28, 2002

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1.0 INTRODUCTION

This Site-Specific Health and Safety Plan (HASP) has been prepared by Montgomery Watson Harza (MWH) on behalf of Honeywell International, Inc. (Honeywell) (formerly AlliedSignal) for the Mathews Avenue Landfill located in the Village of Solvay, Town of Geddes, Onondaga County, New York ("the Site").

This HASP is specifically for use by MWH employees only. Subcontractors providing work to MWH must submit their health and safety policies, HASP, or other health and safety information as requested by the project manager or their designee.

How Does This Affect DEC Personnel Or DEC's Consultant's Personnel?

2.0 SITE BACKGROUND

The Mathews landfill site is bounded by Belle Isle Road on the north, Boyd Avenue on the east, Milton Avenue on the south, and Geddes Brook and Horan Road on the west.

The New York State Department of Environmental Conservation (NYSDEC) has identified the Site as a potential source of mercury, chlorinated benzenes, lead, and possibly other contaminants to groundwater, sediments, surface water, and Onondaga Lake via Geddes Brook.

The Mathews Avenue Landfill was a construction/demolition debris disposal site used by AlliedSignal. AlliedSignal applied for closure of the landfill in 1988, under Part 360 (NYSDEC Solid Waste Regulations). Prior soil samples concluded that mercury and chlorinated benzene compounds exist in the soil.

Mercury and other contaminants (including chlorinated benzenes, several other volatile organic compounds, PCBs, and lead) were also detected in a sediment sample collected by NYSDEC at a location (adjacent to the site) which is drained by a tributary to Geddes Brook. In addition, structures which are allegedly diaphragm cells associated with the Chlor-Alkali process (which was employed at the LCP/Bridge Street and Willis Avenue Plants) have been noted at the site.

3.0 SCOPE OF WORK

MWH will screen the Site for the presence of industrial contaminants through the review of historical documents and the analysis of environmental samples, which will be evaluated to determine if hazardous waste was disposed of at the Site. Environmental samples will be collected through the installation of soil borings, groundwater monitoring wells, the excavation of test pits, the collection of surface water, and sediment samples. Selected environmental samples will be submitted for laboratory analysis.

Specific work tasks for the Site include:

3.1 HISTORICAL RECORDS ASSESSMENT

A Historical Records Assessment (HRA) will be conducted to assess the nature of the local geology , surface and groundwater hydrogeology, as well as evaluate past activities on or near the Mathews Avenue Site that may have resulted in adverse impacts to the environment.

3.2 FIELD INVESTIGATION

A field investigation will be conducted to evaluate the Site for the presence of industrial contaminants resulting from past waste disposal activities on the property. The assessment will be conducted through the excavation and sampling of test pits, advancement and sampling of soil borings, installation and sampling of both shallow and deep groundwater monitoring wells, and the collection and analysis of sediment and surface water samples.

3.2.1 Mobilization/Demobilization

Mobilization will include acquisition and inspection of equipment and materials, scheduling subcontractors, establishing communication and transportation arrangements, personnel scheduling and assignment, delineation of work zones, utility clearance, and sampling point

locations. Demobilization will consist of all normal activities associated with securing documentation, shipping samples, cleaning and storing equipment, and follow-up communication with both subcontractors and Honeywell.

3.2.2 Test Pit Excavations

A series of test pits will be excavated at specific locations in the filled area to assess shallow subsurface fill conditions and evaluate specific areas of potential environmental concern that may have been identified in the HRA. A total of six test pits will be excavated to a depth of eight feet below grade, or until groundwater is first encountered, utilizing a rubber tire mounted excavator.

The on-site MWH environmental professional will screen the excavated material utilizing a photoionization detector (PID) and mercury vapor analyzer. A minimum of one grab fill sample will be collected for laboratory analysis from each test pit location. The analytical sample will be collected from that area of the test pit exhibiting the highest PID and/or mercury vapor reading. In the event that no PID or mercury vapor readings are observed, the sample will be collected from the bottom of the test pit.

Following the sample operations, the test pit will be backfilled and compacted with the excavated material.

3.2.3 Soil Boring

A total of nine soil borings will be advanced and soil samples will be recovered from within or near the suspected fill area.

Each soil boring will be abandoned using a cement/bentonite grout mixture upon termination of the boring. Soil cuttings generated at each boring location will be containerized

individually in 55-gallon drums and transported to a temporary on-site waste staging area pending receipt of the analytical results.

3.2.4 Monitoring Well Placement

Fourteen groundwater-monitoring wells will be installed around the perimeter of the landfill.

3.2.5 Monitoring Well Development

Each monitoring well will be developed following completion in an attempt to remove suspended sediments from the sand filter pack and maximize the hydraulic connection between the overburden aquifer and the monitoring well. Well development will be performed and the wastewater generated during well purging and sampling activities will be containerized and stored on-site in labeled 55-gallon drums pending characterization and proper disposal.

3.2.6 Surface Water and Sediment Sampling

Surface water and sediment samples will be collected from the surface water and wetland areas bordering and on the Site.

4.0 KNOWN OR SUSPECTED SUBSTANCES ON-SITE

Sites at which hazardous materials are present may contain a variety of different chemical substances in liquid, solid, and gaseous form. By identifying the chemical substances present or suspected to be present on site, proper protective measures can be taken to reduce the exposures to site field team members.

An up-to-date copy of the National Institute for Occupational Safety and Health (NIOSH) *Pocket Guide to Chemical Hazards* will be kept on-site at all times as a resource for determining hazards associated with chemicals that may not have been identified. The hazards to site personnel associated with the suspected site contaminants can be assessed through comparison of actual exposures with several established occupational exposure limits. Permissible Exposure Limits (PELs) are established by Federal OSHA. Recommended Exposure Limits (RELs) are established by the National Institute for Occupational Safety and health (NIOSH).. Threshold Limit Values (TLVs) are established by the American Conference of Governmental Industrial Hygienists (ACGIH). Immediately Dangerous to Life or Health (IDLH) values are established by NIOSH. These occupational exposure limits are described as follows:

- Permissible exposure limits are established by Federal OSHA. PELs may be expressed as an 8-hour time weighted average (TWA) or as a ceiling limit. Ceiling limits may not be exceeded at any time. PELs are enforceable by law.
- RELs are developed by NIOSH. RELs are published guidelines that recommend employee exposure limits for airborne contaminants. RELs are expressed as a TWA or Ceiling Limit.
- The ACGIH TLV is defined as the airborne concentration of a substance to which nearly all field team members (8 hours per day, 40 hours per week) may be repeatedly exposed, day after day, without experiencing adverse health effects. For some substances, the overall exposure to a substance is enhanced by skin, mucous membrane, or eye contact. These substances are identified by a notation following the TLV values. Other substances have a ceiling value, which may not be exceeded during any part of the working exposure.

- IDLH: The maximum airborne concentration of a substance which one could escape within 30 minutes without escape-impairing symptoms or any irreversible health effects.

The following Table provides the known or suspected chemicals of concern at the Mathews site.

Substance	Expected Concentration	TLV (ppm)*	PEL (ppm)*	Route(s) of Exposure**	Acute and Chronic Symptoms of Exposure
Dichlorobenzene	<75	750	75	Inhalation, Ingestion, Skin or Eye Contact	Central nervous system depressant, irritation of eyes and mucous membranes, convulsions [insomnia, dermatitis, anorexia]
Benzene	<1	10 skin 5 (15 min ceiling) (NIC, 0.1)	1	Inhalation, Ingestion, Absorption	Irritated eyes, nose, respiratory system; giddiness, nausea, [abdominal, pain, anorexia, lassitude, dermatitis, depression, suspect human carcinogen]
Ethyl Benzene	<100	100	100	Inhalation, Ingestion, Absorption	Irritation of eyes and mucous membrane; headache; [dermatitis]
Xylenes	<100	100	100	Inhalation, Ingestion, Absorption	Dizziness, excitedness, drowsiness stagger; irritation of eyes, nose, and throat; nausea, vomit, [dermatitis]
Toluene	<100	100 skin (NIC 50)	100	Inhalation, Absorption, Ingestion	Fatigue, weakness; confusion, dizziness, headache; dilated; pupils, [insomnia; dermatitis]
Chlorobenzene	<120	120	120	Inhalation, Ingestion, Contact	Fatigue, weakness; confusion, dizziness, headache; dilated; pupils
*Mercury	<0.1mg/m^3	<0.1mg/m^3	<0.1mg/m^3	Inhalation, Ingestion, Contact	Irritation of eyes; cough, chest pain bronpneuitis, tremor, insomnia, irritability, indecision, headache, stomatitis

(Milligrams per cubic meter)

Substance	Expected Concentration	TLV (ppm)*	PEL (ppm)*	Route(s) of Exposure**	Acute and Chronic Symptoms of Exposure
*Lead	<0.05mg/m^3	<0.1mg/m^3	<0.05mg/m^3	Inhalation, Ingestion, Skin or Eye Contact	Irritation of eyes; cough, chest pain bronpneuitis, tremor, insomnia
	(Milligrams per cubic meter)				

(NIC = Notice of intended change)
* In air
** Parts per million

5.0 PHYSICAL HAZARDS

This section provides information concerning common physical hazards associated with hazardous waste operations and recommended controls to minimize risk to site field team members.

5.1 SLIP/TRIP/FALL

Field team members are to be vigilant in providing clear footing, clearly identifying obstructions, holes, or other tripping hazards and maintaining an awareness of uneven terrain and slippery surfaces. If necessary, shoes providing more elaborate tread will be worn to minimize slip, trip, and fall hazards.

5.2 HEAVY LIFTING

During manual lifting tasks, field team members must remember to lift with the force of the load suspended on their legs and not their backs. They are to maintain a straight back and hold the object close to the body. Mechanical lifting devices or the help of a fellow field team member should be sought when the object is too heavy for one person to lift.

5.3 ELECTRICAL HAZARDS

The presence of underground and overhead utilities must be assessed before fieldwork involving heavy equipment with booms or extensions, or invasive work is permitted. An underground utility service in conjunction with a review of as-built construction drawings will identify and locate all utilities prior to invasive activities. Invasive activities must be at least 5 feet away from marked underground utilities.

Other electrical hazards include temporary office power supply, generators, and lightning. Field team members are responsible for ensuring that equipment brought to the work site is

grounded before use. Additionally, the use of ground-fault circuit interrupters is required for portable electrical tools and fixed electrical equipment used at the site.

5.4 MOTOR VEHICLE HAZARDS

Motor vehicle accidents can occur any time people drive. Field team members are required to employ defensive driving techniques, and obey all site speed limits and vehicle safety requirements. Motor vehicle accidents are to be reported to the MWH Safety Officer.

5.5 SHARP EDGES AND PINCH POINTS

During the course of fieldwork, it is feasible that field team members will encounter sharp edges and pinch points. Sharp edges may include site debris, field tools, equipment, or other objects. Pinch points are places where the hands can be caught between objects or moving parts. When danger of cuts to the hands or other body parts is probable, employees will either arrange paths where field team members may walk free of sharp edges, or ensure during the tailgate safety meeting that areas with known sharp edges are brought to the attention of the entire field crew. Heavy leather work gloves will be used in conjunction with chemical resistant gloves when handling sharp objects is required.

5.6 NOISE

Noise levels will vary during the course of field activities at any site. For this reason, noise monitoring will be required during the initial stages of site work or when it is anticipated that noise levels will need to be characterized. If used, the sound level meter or noise dosimeter will meet the OSHA requirements [ANSI S1.4-1971 (R1976), Specifications for Sound Level Meters, Type 2] for measuring noise levels in decibels (dBA) with an A-weighted scale, in the slow response mode. Time-weighted average exposures greater than 85 dBA will necessitate implementing the hearing conservation requirements stated in 29 CFR 1910.95 (Occupational Noise Exposure). These include continued area noise monitoring, additional

personnel training regarding noise hazards and protective measures, and the mandatory use of protective hearing devices (such as ear plugs with a noise reduction rating (NRR) greater than or equal to 25).

Generally, if a worker cannot hear someone speaking at a normal conversation level when they are 3 feet away, hearing protection is required.

Monitoring may include noise measurements if loud machinery is present in order to prescribe the correct amount and type of hearing protection, and to designate hearing protection required zones. Noise levels may be collected by using a sound level meter (SLM) or a dosimeter. The MWH Safety Officer will coordinate the noise-monitoring program. Any noise monitoring equipment that will be used must meet OSHA requirements (ANSI S1.4-1971, R1976- "Specifications for Sound Level Meters, Type 2"). All measurements will be taken on the 'A' scale in the slow response mode.

6.0 HEAVY EQUIPMENT USE

6.1 DRILLING OPERATIONS

Before drilling, the boring location must be adequately monitored for organic vapors and flammable gases. Chemical resistant gloves will be used when handling contaminated soils and water.

Potential hazards associated with drilling operations include electrical hazards such as overhead power lines and underground utilities; rolling, spreading, or sliding tools and supplies; and rotating machinery. A utility locating service will be notified and no drilling will be allowed within 5 feet of marked underground utilities or within 20 feet of overhead high-voltage electrical hazards. The following safety provisions will be adhered to by the drilling Contractor:

- Before raising the mast, drill rig personnel (with the exception of the operator) and field team members will be cleared from the area immediately to the rear and the sides of the mast. Drill rig personnel and other field team members must be informed that the mast is being raised prior to raising it.
- Before raising the drill rig mast in the vicinity of electrical power lines, the operator will walk completely around the drill rig to determine the distance of the rig to the nearest power line when the mast is raised (this distance should be equal to or greater than 20 feet). Any questions regarding the appropriateness of a drilling location will be brought to the attention of the MWH Safety Officer.
- Before the mast of a drill rig is raised and drilling is commenced, the drill rig must be first leveled and stabilized with leveling jacks or solid cribbing. The drill rig should be re-leveled if it settles after initial set-up. The mast will be lowered only when the leveling jacks are down and the leveling jack pads will not be raised until the mast is lowered completely.
- Prior to drilling, a hand auger will be used to clear the boring location to a depth of approximately 5 feet if there is any question of the location of underground utilities.
- Suitable storage for all tools, materials, and supplies will be provided. Pipe, casings, augers, and similar drilling tools will be arranged to prevent rolling, spreading, or sliding by using blocks.

- Work areas and drilling platforms will be kept free of materials, obstructions, and substances that could cause a surface to become slick or otherwise hazardous.
- Augers will be used in accordance with the manufacturer's recommended methods for securing the auger to the power coupling. Additionally, the operator and tool handler will be responsible for establishing safe procedures for drilling, auger connection and disconnection, and auger insertion and removal.
- Augers will only be cleaned when the drill rig is in neutral and the auger has ceased to rotate.
- Unattended boreholes must be properly covered or otherwise protected.

7.0 OTHER HAZARDS

7.1 BIOLOGICAL HAZARDS

Potential biological hazards, at hazardous waste sites, may consist of snakes, spiders, ticks and fleas, and poisonous plants such as poison oak and poison ivy.

Spiders, snakes, and fleas exist in cool, dark, moist areas. The potential for encounters exist when reaching into dark, covered places. Suggestions for control include using a long stick to break apart webs or loosen soil from certain areas. A flashlight should also be used when reaching into a dark area. Field team members will be aware of their surroundings and avoid contact with all insects.

Rattlesnakes, copperheads, and scorpions are indigenous to many parts of the United States. The MWH Safety Officer will inform field team members at the daily tailgate safety meeting to be on the lookout for rattlesnakes, copperheads, and scorpions, when applicable. It should be noted that the American Red Cross does not advocate the use of snakebite kits for snakebite injuries. Experience has shown that the victim has a better chance of recovery, without permanent damage, when the site of the wound is immobilized and the victim rushed to the closest emergency medical facility (preferably within 30 minutes).

Poisonous plants, such as poison ivy and poison oak, grow wild in dark, moist areas, and at the base of surrounding seedling or adult trees. Some individuals are prone to break out in dermal (skin) rashes upon contact with the plant oil. A visual site inspection and identification of the plants should be completed prior to each workshift so that all individuals are aware of the potential exposure.

Lyme disease is a tick-transmitted inflammatory disorder. The most common symptoms of Lyme disease are malaise and fatigue, chills and fever, headache, and a stiff neck. Symptoms are intermittent and changing, but malaise and fatigue may last for weeks. More severe cases involve the onset of arthritis, with pain and swelling in several large joints, especially the knees.

The best preventive method for avoiding Lyme disease is to avoid contact with ticks. Use of insect repellents, long work pants, and boots will be effective when used in conjunction with visual inspection of all clothing and skin surfaces. If bitten by a tick, take all necessary first aid precautions.

8.0 PERSONAL PROTECTIVE EQUIPMENT

Efforts will be made to eliminate workplace chemical exposure hazards during the project through the use of engineering controls. However, it is recognized that to effectively control many of the potential exposure hazards the use of personal protective equipment (PPE) will still be required. The EPA terminology of Levels A, B, C, and D for personal protective equipment is used to describe the general PPE ensembles that may be used throughout this project.

An appropriate ensemble of PPE will be selected for initial use on a site-specific and activity specific basis, accounting for the hazards and potential hazards likely to be encountered as a result of site work. Specific PPE elements will be listed in this HASP and will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions, and duration. When specifying an ensemble of PPE, the following considerations will be evaluated and communicated to employees via this HASP, or during tailgate safety meetings:

- Work mission duration;
- Initial PPE selection based on anticipated site hazard;
- Limitations of PPE;
- Maintenance and storage instructions;
- Decontamination or disposal requirements;
- PPE training and proper fitting;
- Donning and doffing procedures;
- Inspection of PPE prior to, during, and after use;
- Evaluation of the effectiveness of the PPE program; and,
- Effect of temperature extremes on PPE ensemble.

All respiratory protective equipment will be National Institute for Occupational Safety and Health (NIOSH) and Mine Safety and Health Administration (MSHA) approved. Each employer will maintain a written respiratory protective equipment program detailing selection, use, cleaning, maintenance, and storage of respiratory protective equipment, as well

as medical approval for individual use. Currently, Federal OSHA does not allow the use of contact lenses when respiratory protection is required.

It is anticipated that work at the Mathews site will be conducted in Environmental Protection Agency (EPA) Levels "C", "D", and Modified "D".

Each MWH employee working on-Site will be properly trained in the use of PPE prior to the start of field activities. PPE levels designated to be used at the Mathews Site are in conformance with OSHA and EPA criteria for Level C, Modified Level D, and Level D protection.

Level C consists of:

- Full face/half face air purifying respirator equipped with High Efficiency Particulate Air (HEPA) filters and/or organic vapor cartridges.
- Chemical resistant disposable coveralls,
- Outer gloves (taped to coveralls), and
- Leather steel-toed boots.

May also include:

- Outer coveralls,
- Disposable outer boots,
- Hard hat,
- Safety glasses, and
- Hearing protection.

Level D consists of:

- Full face/half face air purifying respirator equipped with High Efficiency Particulate Air (HEPA) filters and/or organic vapor cartridges.
- Chemical (poly -coated) resistant disposable coveralls,
- Outer gloves (Taped to coveralls), and
- Leather steel-toed work boots.

May also include:

- Outer coveralls,
- Disposable outer boots,
- Hard hat,
- Safety glasses, and
- Hearing protection.

Modified Level D is the same PPE as Level D, except that respiratory protection is not required.

Leather or chemical-resistant safety boots must be worn in the exclusion zones (EZ). Chemical-resistant boots, or over-boots, must be worn where surface soil is obviously contaminated or when pure product is likely to be encountered. Chemical-resistant gloves must be worn whenever soil or water suspected of containing hazardous compounds is collected or otherwise handled.

At minimum, disposable Tyvek suits must be worn when working with soil or groundwater, which is suspected of being contaminated.

ANSI approved safety glasses and/or goggles must be worn at all times in the EZ when heavy equipment is operating. Splash-proof goggles or face shields must be worn whenever product quantities of liquid are encountered. Face shields may only be worn over primary eye protection.

Hard hats must be worn at all times in the EZ when heavy equipment or an overhead hazard exists.

9.0 MONITORING

Monitoring instruments and models to be used at the Mathews Avenue Site:

- Photovac 2020 PID or equivalent with 10.6 eV lamp.
- Tri-gas meter or equivalent with a combustible gas detector.
- Draeger pump with appropriate sampling tubes.
- Mercury Vapor Analyzer.

The PID will be calibrated on a daily basis according to manufacturer's specifications and the results recorded in a field logbook. During excavation or drilling operations, organic vapor meter readings will be recorded every 15 minutes or more frequently depending on site conditions. Readings will be made in proximity to the excavation face or within several feet of a borehole. **If the reading exceeds 10 ppm, another reading will be made within the breathing zone.** Air purifying respirators will be worn if meter readings exceed 25 ppm in the breathing zone. If meter readings exceed 25 ppm (sustained for 25 minutes), operations will halt and field team members will move away from the site until the MWH Safety Officer is consulted.

Monitoring with the combustible gas indicator will be performed in conjunction with the PID meter. Site work will cease if readings in excess of 10 percent of the Lower Explosive Limit (LEL) are detected. The combustible gas indicator must also be calibrated on a daily basis.

9.1 HEAT STRESS

Potential for heat stress exists for this project, therefore, heat stress monitoring will be performed for MWH employees.

The potential for heat stress is a function of weather conditions and clothing/equipment being worn, among other factors. Below 70° F, the potential for heat stress is minimal. At temperatures above 70° F, rest periods should be taken at least as frequently as noted in the following chart:

Temperature	Level C	Level D
90° F or above	30 minutes	45 minutes
85° to 90° F	60 minutes	90 minutes
80° to 850° F	90 minutes	120 minutes
75° to 80° F	120 minutes	150 minutes
70° to 75° F	150 minutes	As needed

Site field team members must drink plenty of fluids during rest periods. Rest periods will generally last 10 to 20 minutes, but should be more frequent than designated above if field team members show signs of tiredness, dehydration, or other forms of heat stress.

9.2 COLD STRESS

Cold stress is a function of temperature, rain, and clothing, among other factors. If it is raining, serious symptoms of cold stress, such as hypothermia, can begin at temperatures as high as 45° F. If there is a moderate potential for cold stress, field team members should wear, or have available, several layers of clothing or insulated clothing. Clothing made of materials such as wool or polypropylene, which stays warm while wet or wick away sweat, are preferable to cotton. In the event of rain, field team members should wear clothing that will keep them dry. In cases where there is a severe potential for cold stress, a warming area should also be available.

10.0 SITE CONTROL

For operations involving heavy equipment or potential respirator use, an EZ will be established. The EZ is an area into which only authorized field team members, who are working in the area, may enter. The EZ will encompass all hazardous and potentially hazardous areas (both physically and chemically) and will be delineated by barricade tape, traffic cones, or by other appropriate methods. The decontamination area will be at the entry to the EZ. Official visitors should be discouraged from entering the EZ, but may be allowed to enter if they agree to abide by the provisions of this safety plan, follow orders issues by the site safety officer, and are informed of the potential hazards that could be encountered within the EZ.

11.0 DECONTAMINATION

Equipment decontamination will consist of scrubbing boots, respirators, and gloves with a solution of detergent and water, followed by rinsing with tap water. Disposable equipment, such as Tyvek coveralls and surgical gloves, should be placed in garbage bags. Finally, hands should be washed with soap and water or disposable sanitizing towelettes.

12.0 GENERAL EQUIPMENT AND PROCEDURES

Smoking and open flames will only be allowed in designated areas outside of the EZ. Work is to be conducted during daylight hours. No confined space entry or entry into any trench over 5 feet deep is permitted under this safety plan. All utilities will be located by the proper authorities and verified on-site by MWH personnel.

A tailgate safety meeting will be held at the beginning of the project. At this time, on-site field team members will sign personal acknowledgement forms (Figure 1) indicating that they have read and understand this HASP. Field team members will also sign the Tailgate Safety Meeting Form (Figure 2) at the end of the meeting. This form is attached at the end of this plan. Additional meetings will be held once a day, whenever a new person works on the site, and whenever work begins in another area with significantly different hazards (such as floating product). Topics can include general safety procedures, required protective equipment, signs of heat stress, emergency evacuation routes, decontamination procedures, and other topics as are relevant.

12.1 ADDITIONAL HEALTH AND SAFETY EQUIPMENT

Additional health and safety equipment may be needed on-site, depending on conditions. Necessary equipment for the project should be checked-off by the MWH Safety Officer:

- Emergency Evacuation Route _____
- Personal Acknowledgement Forms _____
- Tailgate Safety Meeting Records _____
- Accident Reporting Forms _____
- First Aid Kit _____
- Fire Extinguisher (ABC as minimum) _____
- Portable Phone or Two-Way Radio (or other means of communications) _____
- Ear Plugs or Ear Muffs _____

- Bullhorn _____
- Portable Eyewash Station (15 minute capacity) _____
- Gatorade _____
- Combustible Gas Indicator _____
- PID/FID _____
- Colorimetric Tube Pump _____
- Colorimetric Tubes _____
- Traffic/Site Control Measures _____
- Flagging Tape _____
- Cones _____
- Drums _____
- Reflective Vests _____

13.0 EMERGENCY/NON-EMERGENCY PLANNING

It is the objective of this HASP to minimize the potential for chemical, biological, and physical hazards and operational incidents. As part of this program, emergency response planning provides procedures for responding to emergencies that may occur during the project. It is not the intention of this program to include professional emergency response activities as part of the field operations. Thus, all site field team members are instructed to assess emergencies in terms of whether the problem can be solved safely with the personnel and equipment at the site, or not. If it is determined that site field team members are able to contain the emergency safely; they should do so. If it is determined that the emergency is out of the realm of abilities for existing site field team members, evacuation and notification must take place immediately. This section provides general information for responding to emergency situations. The MWH or subcontractor's Site Safety Officer will be the lead person in emergency situations associated with on-site work.

13.1 COMMUNICATION SYSTEM

A telephone system will be available on-site for communication with off-site personnel. On-site communication systems may include cellular telephones, two-way radios, or other suitable devices.

14.0 PRE-EMERGENCY PLANNING

14.1 PROJECT-SPECIFIC TRAINING

Prior to the start of work, project field team members will receive training in the established emergency response procedures and associated equipment.

14.2 EVACUATION ROUTES

At each work site, evacuation routes will be clearly communicated to all project field team members. A safe place of refuge will be determined on a site-by-site basis so that a headcount can be made following the event of an emergency evacuation from the Site.

14.3 EMERGENCY MEDICAL ASSISTANCE AND FIRST AID

Prior to work start-up, an emergency medical assistance network will be established which may include the fire department, ambulance service, and clinic or hospital emergency room. A vehicle will be available on-site during all work activities to transport injured field team members to the University Hospital in Syracuse (See Figure 3 for directions).

The Site Safety Officer will be responsible for taking necessary action and contacting the appropriate emergency contacts and MWH field team members in case of an emergency.

The MWH Safety Officer and other field team members may be certified to render both first aid and CPR, prior to the initiation of site activities. A first aid kit, including necessary protection against bloodborne pathogens, will be available at each site for use by trained personnel. Table 1 presents a list of MWH approved first aid supplies that may be selected for use during fieldwork. An adequate supply of fresh potable water for emergency eye wash purposes or portable emergency eyewash will also be available at each site.

14.4 PROJECT SAFETY AND HEALTH REPORTING

All accidents, safety related incidents, and safety related near misses will be documented and reported to the MWH Project Manager, MWH Safety Officer or designated representative on site, and company-specific safety and health contacts.

14.5 OTHER NECESSARY PROJECT DOCUMENTATION

A Tailgate Safety Meeting Form (Figure 2) must be completed for each day of fieldwork.

All field team members must be familiar with the provisions of the MWH Injury and Illness Prevention Program and be aware that the MWH project On-site Safety Officer is responsible for its implementation. See MWH Safety and Health Procedure 300 (Injury and Illness Prevention Program) for additional information.

The MWH On-site Safety Officer must maintain a copy of the MWH Accident Investigation (MWH Safety and Health Procedure 402) on-site at all times. In the event of a work-related injury or illness, the On-site Safety Officer will complete an accident investigation form and submit it to the MWH Project Manager and MWH Project Health and Safety Coordinator.

15.0 HAZARD COMMUNICATION PROGRAM

MWH's Hazard Communication Program will be used throughout this project. This program appears as I/HW Procedure No. 630.11 and as Bulletin III-1 Revision A of the MWH Environmental/Occupational Safety and Health Manual and is included in Appendix A. A copy of I/HW Procedure No. 630.11, Bulletin III-1 Revision A, and Bulletin A-III Revision A, the MWH Employee Guide to Hazardous Materials, as well as material safety data sheets (MSDSs) for hazardous materials brought to the Mathews Avenue Site must be maintained and placed in Appendix A of this HASP and made available at the project field office. As necessary, the Hazard Communication Program of Subcontractors will also be solicited for use as a project office reference. Site MWH field team members and subcontractors will be made aware of the MWH Hazard Communication Program and have access to MSDSs for chemicals brought to the Site.

16.0 SPILL CONTAINMENT PROGRAM

Drums or other containers will be on-site to store decontamination fluids and waste. Field team members will exercise care when decontaminating equipment and field team members, and will treat any spilled decontamination water or fluid as a hazardous material. If a spill occurs, field team members will:

- Consult the MWH Safety Officer to assess the need to upgrade to a higher level of PPE. This assessment will depend on the volume of the spill, nature of the spilled material, and measurements from air monitoring equipment;
- Obtain an appropriate drum or container to package the spilled material; and,
- Pump or scoop up the spilled material and any additional contaminated soil or articles, and place the material in a drum, or other suitable container, using the appropriate level of PPE.

In the event that the spill is too large to be handled safely by the field team, the area around the spill will be secured and the MWH Safety Officer will initiate clean-up activities by notifying the appropriate emergency or spill response organization. Once efforts to mitigate the spill are underway, the MWH Project Manager and appropriate Honeywell representatives will be notified.

17.0 FIRE PROTECTION PLAN

Field activities associated with hazardous waste operations could potentially result in a fire at a site. As mentioned in Section 12.0, cigarette smoking is expressly forbidden in the EZ. Air monitoring equipment used to monitor for flammable mixtures will be intrinsically safe and measurements collected at a frequency which will allow for a reliable assessment of the fire hazards at a site. Invasive field activities will be monitored with direct reading air monitoring equipment, as specified in Section 9.0. At least one Class ABC dry chemical fire extinguisher, 5 pound minimum, will be available for use at the Site and placed within 75 feet of a known ignition source.

Electrical wiring will be free from frayed ends and sections, and all hook-ups will be checked for loose fittings. Portable power tools will be connected to a ground fault circuit interrupter and care will be taken to ensure that electrical connections do not exceed the maximum load capacity for any one circuit.

Upon detecting a fire/explosion, employees will notify the fire department and determine whether or not the fire is small enough to readily extinguish with immediately available portable extinguishers or water, or if other fire-fighting methods are necessary. Non-essential personnel will be directed away from the fire area. If it is judged that a fire is small enough to fight with available extinguishing media, employees will attempt to extinguish the fire provided that:

- The employees are able to approach the fire from the upwind side, or opposite to the direction of the fire's progress;
- The *correct* extinguisher is readily available. Type ABC (5 pound recommended minimum) fire extinguishers will be provided in work areas and on vehicles; and,
- No known complicating factors are present, such as likelihood of rapid spread, imminent risk of explosion, or gross contamination.

Field team members leaving a fire/explosion area will notify the fire department and will account for all employees in that work area as soon as possible. The MWH Safety Officer or designee will perform a head count for that work area. The MWH Safety Officer will be notified as soon as possible of the location, size, and nature of the fire/explosion. A member of the MWH management team will notify appropriate agency personnel in the event of a fire or explosion resulting in a release of a hazardous material to the environment.

As conditions dictate, the MWH Safety Officer will declare an emergency, initiate the remedial procedures, request assistance from the fire department, and make the necessary on-site and off-site notifications. If assistance from the fire department is required, an escort appointed by the Site Safety Officer will direct responders' vehicles, over clean roads, to the extent possible to limit contamination. Note: National Fire Protection Association (NFPA) guidelines call for notifying the fire department, even for small fires, to ensure proper extinguishment.

If employee(s) are unable to evacuate themselves from a fire/explosion area for any reason, their rescue will be the first priority of responders. The MWH Safety Officer will determine whether on-site resources are sufficient to proceed, or if rescue must be delayed until outside responders arrive.

In the event a support zone fire occurs during working hours, the following measures will be taken to put out the fire:

- Utilize fire extinguishers.
- Confirm that request for assistance from the fire department has been made.
- Utilize earth moving equipment, foam unit, and water truck, as appropriate. Brush fires will be extinguished with water.

All fire extinguishers should be inspected on a monthly basis to ensure that the unit is adequately charged with extinguishing media. Do not store a fire extinguisher on its side. To use the extinguisher, follow the acronym **PASS** for below listed instructions:

- Pull the pin on the top of the unit;
- Aim at the base of the fire;
- Squeeze the handle on the top of the unit;
- Sweep the extinguishing media along the base of the fire until the fire is out; and
- Ensure that the fire is fully cooled before assuming it is completely extinguished.

No attempt should be made to extinguish large fires; these should be handled by the fire department. The complete area of the fire should be determined. If human life appears to be in danger or the spread of the fire appears to be rapidly progressing, move field team members further upwind, away from the fire.

18.0 EMERGENCY CONTACT INFORMATION

NOTE: The Site Supervisor will have a cellular telephone available as well as a two-way radio for non-emergency calls.

Location of Fire Extinguishers:.....To be located within 75 feet of potential source (Type A, B, C)

Location of Emergency Shower/Eyewash Station:....As needed

Location of First Aid Kit:.....Site personal vehicle or field office

Ambulance:.....911 or (315) 471-4141

Fire:.....911

Police:.....911 or (315) 468-3283

Sheriff:.....911

Poison Control Center:.....Central New York Poison Control Center: (800) 222-1222, or (315) 476-4766

Hospital:.....911 or (315) 464-5540

Emergency Route:.....(FIGURE 3)

EPA Spill Response:.....(212) 637-3000

Power Company:.....Niagara Mohawk – (914) 287-3327

Natural Gas Company:.....Niagara Mohawk – (888) 750-0712

Telephone Company:.....Verizon - (914) 890-771 (Repairs 24 hour/day)

New York Sate Department of Environmental Conservation:.....(315) 426-7400

Emergency Contacts:

1. Rick C. Foster (MWH) – W: (518) 899-3366; H: (518) 692-1054; Cell: (518) 369-5726
2. Anthony Noce (MWH) – W: (518) 899-486; H: (518) ###-####; Cell: (518) 369-####
3. Rich Hixon (MWH) – W: (518) 899-5481; H: (518) 383-9113; Cell: (518) 369-8675

TABLE 1

MWH APPROVED LIST OF FIRST AID SUPPLIES

- ❑ Container that will ensure all supplies are kept clean and sanitary.
- ❑ Eye drops.
- ❑ Burn spray or ointment.
- ❑ Hydrogen peroxide 3 percent solution.
- ❑ Band-Aids: Knuckle Band-Aid, elastic strips (3 x 7/8 inch), and adhesive bandage (3 x 3/4 inch).
- ❑ Finger tip (2 x 3/4 inch).
- ❑ Triangle bandage and safety pins.
- ❑ Gauze Bandages: 2 and 4 inch square pads and 1, 2, and 4 inch rolls or compresses.
- ❑ First aid tape.
- ❑ Ace bandage.
- ❑ Clean wipes.
- ❑ Hand cleaner.
- ❑ Sterile water.
- ❑ Antiseptic swabs.
- ❑ Eye dressing packet.
- ❑ Pressure dressings.
- ❑ Instant ice packs.
- ❑ Cotton balls.
- ❑ Scissors and tweezers.
- ❑ Latex gloves.
- ❑ CPR barricade, to prevent mouth-to-mouth contact.
- ❑ Tourniquet.
- ❑ First aid guidebook.
- ❑ Emergency eyewash station.
- ❑ Flashlight.
- ❑ Potable water.
- ❑ Traffic control/safety devices (traffic vests (red and green, cones, flares).
- ❑ Fire extinguishers (10 pound ABC minimum).
- ❑ Spill absorbent.
- ❑ Rope.
- ❑ Spare shovels and tools.
- ❑ Two-way radios.

FIGURE 1

TRAINING RECORD

SUBJECT: Acknowledgment of Health and Safety Plan

DATE: _____

TIME: _____

INSTRUCTOR _____

LOCATION: Honeywell International, Inc./Mathews Avenue Site, East Syracuse, NY

NAME (PRINT)	SIGNATURE

FIGURE 2

TAILGATE SAFETY MEETING FORM

SUBJECT: _____

DATE: _____

TIME: _____

INSTRUCTOR _____

LOCATION: Honeywell International, Inc./Mathews Avenue Site, East Syracuse, NY

NAME (PRINT)	SIGNATURE

FIGURE 3

DIRECTIONS TO

UNIVERSITY HOSPITAL

ADAMS STREET

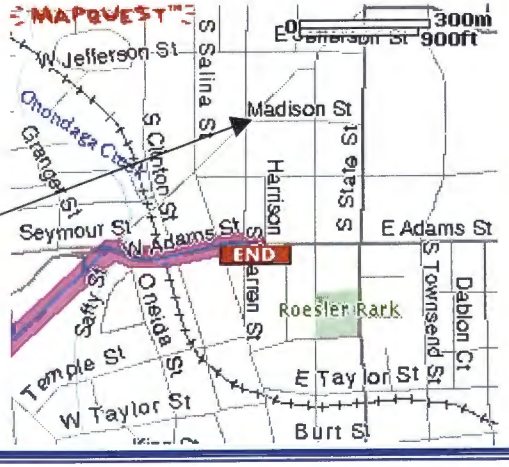
SYRACUSE, NY

Total Distance: 3.08 miles **Total Estimated Time:** 12 minutes

DIRECTIONS	DISTANCE
1: Start out going Southeast on WILLIS AVE towards TOMPKINS ST.	0.05 miles
2: Turn RIGHT onto TOMPKINS ST.	0.11 miles
3: Turn LEFT onto S AVERY AVE.	0.61 miles
4: S AVERY AVE becomes VELASKO RD.	0.21 miles
5: Turn LEFT onto W ONONDAGA ST.	1.18 miles
6: Turn RIGHT onto DELAWARE ST.	0.02 miles
7: Turn LEFT onto W ONONDAGA ST.	0.70 miles
8: Turn RIGHT onto W ADAMS ST.	0.21 miles
Total Estimated Time: 12 minutes	**Total Distance:** 3.08 miles

DESTINATION:

[200-225] E Adams St
Syracuse, NY
13202 US



APPENDIX A

MATERIAL SAFETY DATA SHEETS

POLYSCIENCE -- BENZENE, PRODUCT #: 251C-1 - BENZENE, ACS.POLYSCIENCE -- BENZENE, PRODUCT #: 251C-1 - BENZENE, ACS.
MATERIAL SAFETY DATA SHEET
NSN: 6810002815266
Manufacturer's CAGE: 58378
Part No. Indicator: A
Part Number/Trade Name: BENZENE, PRODUCT #: 251C-1

General Information

Item Name: BENZENE, ACS.
Company's Name: POLYSCIENCE
Company's Street: 7800 MERRIMAC AVE
Company's City: NILES
Company's State: IL
Company's Country: US
Company's Zip Code: 60648
Record No. For Safety Entry: 003
Tot Safety Entries This Stk#: 006
Status: SE
Date MSDS Prepared: 01MAR92
Safety Data Review Date: 05AUG94
Supply Item Manager: CX
MSDS Serial Number: BTSWC
Specification Number: 0-C-265C (RED SPEC)
Hazard Characteristic Code: F3
Unit Of Issue: CN
Unit Of Issue Container Qty: 20 LITERS
Type Of Container: METAL/PLASTIC
Net Unit Weight: 36.4 LBS

Ingredients/Identity Information

Proprietary: NO
Ingredient: BENZENE (SARA III)
Ingredient Sequence Number: 01
Percent: 100
NIOSH (RTECS) Number: CY1400000
CAS Number: 71-43-2
OSHA PEL: SEE 1910.1028
ACGIH TLV: 10 PPM; A2; 9394
Other Recommended Limit: NONE RECOMMENDED

Physical/Chemical Characteristics

Appearance And Odor: COLORLESS LIQUID.
Boiling Point: 176F,80C
Vapor Pressure (MM Hg/70 F): 7403 @20C
Vapor Density (Air=1): 2.77
Specific Gravity: 0.874
Autoignition Temperature: 928F

Fire and Explosion Hazard Data

Flash Point: 12F,-11C
Lower Explosive Limit: 1.3
Upper Explosive Limit: 7.1

Extinguishing Media: CARBON DIOXIDE, DRY CHEM POWDER OR APPROPRIATE FOAM. WATER MAY BE EFFECTIVE FOR COOLING BUT MAY NOT EFFECT EXTINGUISHMENT
Special Fire Fighting Proc: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT W/SKIN & EYES. USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
Unusual Fire And Expl Hazrds: EXTREMELY FLAMMABLE. VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASHBACK. CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

Reactivity Data

Cond To Avoid (Stability): HIGHT TEMPERATURES. SOURCES OF IGNITION.
Materials To Avoid: OXIDIZING AGENTS.
Hazardous Decomp Products: TOXIC FUMES OF CARBON MONOXIDE AND CARBON DIOXIDE.

Health Hazard Data

LD50-LC50 Mixture: LD50 (ORAL,RAT)=930 MG/KG
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: ACUTE:HARMFUL IF SWALLOWED,INHALED,ABSORBED THRU SKIN.IRRIT TO MUC MEM & UPPER RESP TRACT.CAUSES SKIN & SEVERE EYE IRRIT.CHRONIC:CARCINOGEN.MAY ALTER GENETIC MATERIAL.BLOOD EFFECTS.
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: YES
Explanation Carcinogenicity: CONTAINS Benzene [71-43-2] WHICH IS LISTED BY NTP AND IARC AND REGULATED BY OSHA AS A CARCINOGEN.
Signs/Symptoms Of Overexp: NAUSEA,DIZZ,HEAD,NARCOTIC EFFECT.CANCER. EXHILARATION,NERVOUS EXCITATION &/OR GIDD,DEPRESS,DROWSINESS,FATIGUE. TIGHTNESS IN CHEST,BREATHLESSNESS,LOSS OF CONSC,TREMORS,CONVULS,DEATH DUE TO RESP PARA OR CIRCULATORY COLLAPSE.DRYING,SCALING DERM,2NSD SKIN INFECTIONS.BLEEDING FROM NOSE/GUMS/MUC MEM,SMALL BLISTERS,LEUKOPENIA.
Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.
Emergency/First Aid Proc: IMMED FLUSH EYES OR SKIN W/COPIOUS AMTS OF WATER FOR @ LEAST 15MINS WHILE REMOVING CONTAMINATED CLOTHING/SHOES. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREAHTING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT GIVE OXYGEN. IF SWALLOWED WASH OUT MOUTH W/WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: EVACUATE AREA.SHUT OFF ALL IGNITION SOURCES. WEAR SCBA,RUBBER BOOTS & HEAVY RUBBER GLOVES.COVER W/ACTIVATED CARBON ADSORBENT.TAKE UP & PLACE IN CLOSED CONTAINERS.TRANSPORT OUTDOOORS. VENITLATE AREA & WASH SITE AFTER MATL PICKUP IS COMPLETE.
Neutralizing Agent: NOT RELEVANT.
Waste Disposal Method: BURN IN A CHEMICAL INCINERATOR EQUIPPED W/AN AFTERBURNER & SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. OBSERVE ALL LOCAL, STATE AND FEDERAL LAWS.
Precautions-Handling/Storing: WEAR APPROPRIATE NIOSH/MSHA APPROVED RESP, CHEM-RESIST GLOVES,SAFTY GOGGLES,OTHER PROTECTIVE CLOTH.USE ONLY IN CHEMICAL FUME HOOD.USE NONSPARKING TOOLS
Other Precautions: DON'T BREATHE VAPOR.DON'T GET IN EYES,ON SKIN,ON CLOTHING.AVOID PROLONG/REPEAT EXPOSURE.KEEP TIGHTLY CLOSED.KEEP AWAY FROM

HEAT,SPARKS,OPEN FLAME.STORE IN COOL DRY PLACE.IF FEEL UNWELL SEEK MED ADVICE(SHOW LABEL WHERE POSSIBLE).

Control Measures

Respiratory Protection: WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR.
Ventilation: CHEMICAL FUME HOOD WHICH IS EXPLOSION PROOF.
Protective Gloves: CHEMICAL RESISTANT GLOVES.
Eye Protection: SAFETY GOGGLES.
Other Protective Equipment: PROTECTIVE SUITABLE CLOTHING TO MINIMIZE SKIN CONTACT. SAFETY SHOWER & EYE BATH.
Work Hygienic Practices: WASH CONTAMINATED CLOTHING PROMPTLY.WASH THOROUGHLY AFTER HANDLING.

Transportation Data

Trans Data Review Date: 94217
DOT PSN Code: BRS
DOT Proper Shipping Name: BENZENE
DOT Class: 3
DOT ID Number: UN1114
DOT Pack Group: II
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: BXB
IMO Proper Shipping Name: BENZENE
IMO Regulations Page Number: 3185
IMO UN Number: 1114
IMO UN Class: 3.2
IMO Subsidiary Risk Label: -
IATA PSN Code: DBA
IATA UN ID Number: 1114
IATA Proper Shipping Name: BENZENE
IATA UN Class: 3
IATA Label: FLAMMABLE LIQUID
AFI PSN Code: DBA
AFI Symbols: 0
AFI Prop. Shipping Name: BENZENE
AFI Class: 3
AFI ID Number: UN1114
AFI Pack Group: II
AFI Basic Pac Ref: 7-7
N.O.S. Shipping Name: BENZENE.
Additional Trans Data: PER CTDF SHIPPING NAME:BENZENE, UNIT CAN CONTAINS 20 LITERS. FOR PALLETIZATION REQMTS:METAL OR PLASTIC 5 GALLON CONTAINER.

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 05AUG94
Label Status: F
Common Name: BENZENE, PRODUCT #: 251C-1
Chronic Hazard: YES
Signal Word: DANGER!
Acute Health Hazard-Severe: X

Contact Hazard-Moderate: X
Fire Hazard-Severe: X
Reactivity Hazard-None: X
Special Hazard Precautions: HARMFUL IF SWALLOWED,INHALED,ABSORBED THRU SKIN.IRRIT TO MUC MEM & UPPER RESP TRACT.CAUSES SKIN & SEVERE EYE IRRIT. CHRONIC:CARCINOGEN.MAY ALTER GENETIC MATERIAL (MUTAGEN).BLOOD EFFECTS. TARGET ORGANS:BLOOD/BLOOD MARROW/CNS. FIRST AID:IMMED FLUSH EYES OR SKIN W/ COPIOUS AMTS OF WATER FOR @ LEAST 15MINS WHILE REMOVING CONTAMINATED CLOTHING/SHOES. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREAHTING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT GIVE OXYGEN. IF SWALLOWED WASH OUT MOUTH W/WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: POLYSCIENCE
Label Street: 7800 MERRIMAC AVE
Label City: NILES
Label State: IL
Label Zip Code: 60648
Label Country: US

CHEM SERVICE -- 0-669, CHLOROBENZENECHEM SERVICE -- 0-669, CHLOROBENZENE
MATERIAL SAFETY DATA SHEET
NSN: 681000N033519
Manufacturer's CAGE: 8Y898
Part No. Indicator: A
Part Number/Trade Name: 0-669, CHLOROBENZENE

General Information

Company's Name: CHEM SERVICE INC
Company's P. O. Box: 3108
Company's City: WEST CHESTER
Company's State: PA
Company's Country: US
Company's Zip Code: 19381
Company's Emerg Ph #: 215-692-3026
Company's Info Ph #: 215-692-3026
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SMJ
Date MSDS Prepared: 16MAR92
Safety Data Review Date: 24AUG92
MSDS Serial Number: BPTDF
Hazard Characteristic Code: NK

Ingredients/Identity Information

Proprietary: NO
Ingredient: BENZENE, CHLORO-; (CHLOROBENZENE) (SARA III)
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: CZ0175000
CAS Number: 108-90-7
OSHA PEL: 75 PPM
ACGIH TLV: 10 PPM

Physical/Chemical Characteristics

Appearance And Odor: COLORLESS LIQUID WITH PLEASANT FRUITY ODOR.
Boiling Point: 270F,132C
Melting Point: -49F,-45C
Vapor Pressure (MM Hg/70 F): 6.8 @ 20C
Vapor Density (Air=1): N/A
Evaporation Rate And Ref: NOT AVAILABLE
Solubility In Water: INSOLUBLE

Fire and Explosion Hazard Data

Flash Point: 73.4F,23.0C
Lower Explosive Limit: 1.3%
Upper Explosive Limit: 7.1%
Extinguishing Media: CARBON DIOXIDE, DRY CHEMICAL POWDER OR SPRAY.
Special Fire Fighting Proc: USE NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVE EQUIPMENT (FP N).
Unusual Fire And Expl Hazrds: THIS IS A FLAMMABLE CHEMICAL.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): NONE SPECIFIED BY MANUFACTURER.
Materials To Avoid: STRONG OXIDIZING AGENTS.
Hazardous Decomp Products: DECOMPOSITION LIBERATES TOXIC FUMES.
DECOMPOSITION PRODUCTS ARE CORROSIVE.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT

Health Hazard Data

LD50-LC50 Mixture: LD50 (ORAL, RAT):2910 MG/KG
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: ALL CHEMICALS SHOULD BE CONSIDERED HAZARDOUS - AVOID DIRECT PHYSICAL CONTACT. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY BE HARMFUL IF INHALED. CAN CAUSE SKIN IRRITATION. CAN BE IRRITATING TO MUCOUS MEMBRANES. CAN CAUSE EYE AND/OR SKIN IRRITATION. PROLONGED EXPOSURE MAY CAUSE NAUSEA, HEADACHE, (EFTS OF OVEREXPOS)
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NOT RELEVANT
Signs/Symptoms Of Overexp: HLTH HAZ:DIZZINESS AND/OR EYE DAMAGE. MAY BE HARMFUL IF SWALLOWED. DUST AND/OR VAPORS CAN CAUSE IRRITATION TO RESPIRATORY TRACT. EXPOSURE CAN CAUSE LIVER AND KIDNEY DAMAGE.
Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.
Emergency/First Aid Proc: INGEST:CALL MD IMMED (FP N). EYE:FLUSH CONTINUOUSLY W/WATER FOR AT LEAST 15-20 MIN. SKIN:FLUSH W/WATER FOR AT LEAST 15-20 MIN. IF NO BURNS HAVE OCCURRED, USE SOAP & WATER TO CLEANSE SKIN. INHAL:REMOVE PATIENT TO FRESH AIR. ADMIN O*2 IF HAVING DFCLTY BRTHG. IF BRTHG HAS STOPPED, ADMIN ARTIF RESP. IF PATIENT IS IN CARDIAC ARREST ADMIN CPR. CONT LIFE SUPPORTING MEASURES UNTIL MD ASSIST (SUPDAT)

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: EVACUATE AREA. WEAR APPROPRIATE OSHA REGULATED EQUIPMENT. VENTILATE AREA. ABSORB ON VERMICULITE OR SIMILAR MATERIAL. SWEEP UP AND PLACE IN AN APPROPRIATE CONTAINER. HOLD FOR DISPOSAL. WASH CONTAMINATED SURFACES TO REMOVE ANY RESIDUE.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: DISPOSAL MUST BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS (FP N). BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
Precautions-Handling/Storing: CHEM SHOULD BE HANDLED ONLY IN A HOOD. AVOID CONT W/SKIN, EYES & CLTHG. KEEP TIGHTLY CLSD IN A COOL, DRY PLACE.
Other Precautions: STORE ONLY WITH COMPATIBLE CHEMICALS. ALL CHEMICALS SHOULD BE CONSIDERED HAZARDOUS. AVOID DIRECT PHYSICAL CONTACT.

Control Measures

Respiratory Protection: USE NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N).
Ventilation: CHEMICAL SHOULD ONLY BE HANDLED IN HOOD.
Protective Gloves: IMPERVIOUS GLOVES (FP N).
Eye Protection: CHEMICAL WORKERS GOGGLES (FP N).
Other Protective Equipment: NONE SPECIFIED BY MANUFACTURER.

Work Hygienic Practices: CONTACT LENSES SHOULD NOT BE WORN IN LAB.
Suppl. Safety & Health Data: FIRST AID PROC:HAS ARRIVED. AN ANTIDOTE IS A SUBSTANCE INTENDED TO COUNTERACT EFFECT OF A POISON. IT SHOULD BE ADMINISTERED ONLY BY A PHYSICIAN OR TRAINED EMERGENCY PERSONNEL. MEDICAL ADVICE CAN BE OBTAINED FROM A POISON CONTROL CENTER.

Transportation Data

Trans Data Review Date: 93027
DOT PSN Code: DGJ
DOT Proper Shipping Name: CHLOROBENZENE
DOT Class: 3
DOT ID Number: UN1134
DOT Pack Group: III
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: EBV
IMO Proper Shipping Name: CHLOROBENZENE
IMO Regulations Page Number: 3318
IMO UN Number: 1134
IMO UN Class: 3.3
IMO Subsidiary Risk Label: -
IATA PSN Code: GEY
IATA UN ID Number: 1134
IATA Proper Shipping Name: CHLOROBENZENE
IATA UN Class: 3
IATA Label: FLMMABLE LIQUID
AFI PSN Code: GEY
AFI Prop. Shipping Name: CHLOROBENZENE
AFI Class: 3
AFI ID Number: UN1134
AFI Pack Group: III
AFI Basic Pac Ref: 7-7

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 24AUG92
Label Date: 10AUG92
Label Status: G
Common Name: 0-669, CHLOROBENZENE
Chronic Hazard: YES
Signal Word: DANGER!
Acute Health Hazard-Moderate: X
Contact Hazard-Moderate: X
Fire Hazard-Severe: X
Reactivity Hazard-None: X
Special Hazard Precautions: FLAMMABLE. KEEP AWAY FROM HEAT, SPARKS AND FLAME. ACUTE:CAN CAUSE MUCOUS MEMBRANE IRRITATION. MAY CAUSE NAUSEA, HEADACHE, DIZZINESS. MAY BE HARMFUL IF SWALLOWED. DUST AND VAPORS CAN CAUSE IRRITATION TO RESPIRATORY TRACT. CAN CAUSE EYE AND SKIN IRRITATAION. MAY CAUSE EYE DAMAGE. CHRONIC:OVEREXPOSURE CAN CAUSE LIVER AND KIDNEY DAMAGE.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y

Label Name: CHEM SERVICE INC
Label P.O. Box: 3108
Label City: WEST CHESTER
Label State: PA
Label Zip Code: 19381
Label Country: US
Label Emergency Number: 215-692-3026

MONSANTO CHEMICAL -- SANTOCHLOR;PARA-DICHLOROBENZENE - INSECTICIDE,P-DICHLOROBENZENEMONSANTO CHEMICAL -- SANTOCHLOR;PARA-DICHLOROBENZENE - INSECTICIDE,P-DICHLOROBENZENE
MATERIAL SAFETY DATA SHEET
NSN: 6840001741825
Manufacturer's CAGE: 6H252
Part No. Indicator: A
Part Number/Trade Name: SANTOCHLOR;PARA-DICHLOROBENZENE

General Information

Item Name: INSECTICIDE,P-DICHLOROBENZENE
Company's Name: MONSANTO CHEMICAL CO
Company's Street: 800 N LINDBERGH BLVD M/C G5NC
Company's City: ST LOUIS
Company's State: MO
Company's Country: US
Company's Zip Code: 63141
Company's Emerg Ph #: 314-694-4000(COLLECT) 800-424-9300
Company's Info Ph #: 314-694-2333
Distributor/Vendor # 1: SALATHE OIL CO INC (504-366-4542)
Distributor/Vendor # 1 Cage: 0T5C6
Record No. For Safety Entry: 002
Tot Safety Entries This Stk#: 004
Status: SE
Date MSDS Prepared: 15OCT92
Safety Data Review Date: 25MAR94
Supply Item Manager: CX
MSDS Preparer's Name: MSDS ID=105467
MSDS Serial Number: BSVYC
Specification Number: A-A-52287
Spec Type, Grade, Class: NONE
Hazard Characteristic Code: T4
Unit Of Issue: DR
Unit Of Issue Container Qty: 100 LB
Type Of Container: DRUM
Net Unit Weight: 100 LBS

Ingredients/Identity Information

Proprietary: NO
Ingredient: P-DICHLOROBENZENE (1,4-DICHLOROBENZENE) (SARA III)
Ingredient Sequence Number: 01
Percent: 99-100
NIOSH (RTECS) Number: CZ4550000
CAS Number: 106-46-7
OSHA PEL: 75 PPM
ACGIH TLV: 10 PPP, A3; 9394
Other Recommended Limit: NONE RECOMMENDED

Physical/Chemical Characteristics

Appearance And Odor: CRYSTALS;WHITE;PENETRATING MOTHBALL-LIKE ODOR.
Boiling Point: 345F,174C
Melting Point: 127F,53C
Vapor Pressure (MM Hg/70 F): 0.5
Vapor Density (Air=1): 5.1

Specific Gravity: 1.458
Solubility In Water: NEGLIGIBLE;0.008%

Fire and Explosion Hazard Data

Flash Point: 150F,66C
Flash Point Method: COC
Extinguishing Media: WATER SPRAY,FOAM,CARBON DIOXIDE,DRY CHEMICAL OR ANY CLASS B FIRE EXTINGUISHER.
Special Fire Fighting Proc: USE A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE EQUIPMENT.DECONTAMINATE EQUIPMENT AFTER USE.
Unusual Fire And Expl Hazrds: FIRE CONDITIONS MAY EVOLVE TOXIC FUMES.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): HIGH HEAT,SOURCES OF IGNITION.
Materials To Avoid: STRONG OXIDIZING AGENTS.
Hazardous Decomp Products: CARBON DIOXIDE,CARBON MONOXIDE,SMOKE,SOOT, CHLORIDES,CHLORINE.
Hazardous Poly Occur: NO

Health Hazard Data

LD50-LC50 Mixture: LD50 ORAL RAT=3825MG/KG
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: EYES:MAY BE IRRITATING,BUT NOT REPORTED TO CAUSE SERIOUS INJURY.SKIN:MAY BE IRRITATING,BUT REPORTED TO CAUSE MINIMAL DAMAGE.INHAL:MAY CAUSE EYE AND RESPIRATORY IRRITATION.INGEST:OVEREXPOSURE MAY CAUSE JAUNDICE,KIDNEY DAMAGE AND LIVER TOXICITY.
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: PARA-DICHLOROBENZENE:LISTED ON NTP AND IARC SCHEDULES AS "REASONABLY" AND "POSSIBLY" CARCINOGENIC (RESPECTIVELY).
Signs/Symptoms Of Overexp: EYES:PAIN.SKIN:BURNING.INHAL:HEADACHE, SWELLING AROUND THE EYES,INFLAMMATION OF THE MUCOUS MEMBRANES OF THE NOSE, LOSS OF APPETITE,NAUSEA AND VOMITING.
Med Cond Aggravated By Exp: PERSONS WITH PRE-EXISTING RESPIRATORY AILMENTS MAY BE AT INCREASED RISK FROM EXPOSURE.
Emergency/First Aid Proc: SKIN:REMOVE CONTAMINATED CLOTHING;WASH WITH WATER.EYES:FLUSH WITH WATER FOR 15 MINUTES.INHAL:REMOVE TO FRESH AIR.GIVE OXYGEN OR ARTIFICIAL RESPIRATION(PREFERABLY MOUTH-TO-MOUTH) IF NEEDED. INGEST:IF CONSCIOUS,INDUCE VOMITING BY GIVING TWO GLASSES OF WATER,THEN STICK FINGER DOWN THROAT.REMOVE THIS MATERIAL FROM EYES,SKIN,CLOTHING.GET PROMPT QUALIFIED MEDICAL ATTENTION.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: ELIMINATE SOURCES OF IGNITION.USE PROPER PROTECTIVE AND RESPIRATORY EQUIPMENT.SWEEP OR SHOVEL INTO METAL CONTAINERS FOR DISPOSAL.REPORTABLE QUANTITY=100 LBS;CALL NATIONAL RESPONSE CENTER,800-424-8802.RUNOFF INTO SEWER IS A HEALTH AND EXPLOSION HAZARD
Neutralizing Agent: NONE
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH FEDERAL,STATE AND

LOCAL REGULATIONS.RCRA CODE IS U072(40CFR261.33).
Precautions-Handling/Storing: STORE IN A COOL,DRY PLACE,AWAY FROM HIGH HEAT,SOURCES OF IGNITION,STRONG OXIDIZERS.KEEP CONTAINERS CLOSED WHEN NOT IN USE.
Other Precautions: AVOID BREATHING DUST OR VAPORS.AVOID SKIN AND EYE CONTACT.

Control Measures

Respiratory Protection: WHERE ENVIRONMENTAL CONTROLS ARE LACKING OR IN ENCLOSED SPACES USE A NIOSH APPROVED RESPIRATOR FOR ORGANIC VAPOR OR SELF-CONTAINED BREATHING APPARATUS.
Ventilation: LOCAL VENTILATION AT THE WORKSITE;MECHANICAL(GENERAL) VENTILATION TO MAINTAIN TLV/PEL.CONSULT NFPA STD.91.
Protective Gloves: CHEMICALLY RESISTANT.
Eye Protection: CHEMICAL GOGGLES.
Other Protective Equipment: EYE WASH STATION SHOULD BE AVAILBLE.
Work Hygienic Practices: WASH HANDS.SEPERATE WORK CLOTHES FROM STREET CLOTHES.LAUNDER WORK CLOTHES BEFORE REUSE.KEEP FOOD OUT OF THE WORK AREA.
Suppl. Safety & Health Data: NONE

Transportation Data

Trans Data Review Date: 98029
DOT PSN Code: EST
DOT Proper Shipping Name: P- DICHLOROBENZENE *
DOT Class: 6.1
DOT ID Number: UN1592
DOT Pack Group: III
DOT Label: KEEP AWAY FROM FOOD
IMO PSN Code: FIH
IATA PSN Code: YJJ
IATA UN ID Number: 2811
IATA Proper Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. *
IATA UN Class: 6.1
IATA Label: TOXIC
AFI PSN Code: UKJ
AFI Prop. Shipping Name: POISONOUS SOLIDS, N.O.S.
AFI Class: 6.1
AFI ID Number: UN2811
AFI Pack Group: III
AFI Label: KEEP AWAY FROM FOOD
AFI Basic Pac Ref: A10.6
MMAC Code: NR
N.O.S. Shipping Name: PARA-DICHLOROBENZENE,99.4-100%
Additional Trans Data: RQ=100 LBS.

Disposal Data

Label Data

Label Required: NO
Label Status: X
Common Name: LABEL COVERED UNDER EPA REGS - HAZCOM LABEL NOT AUTHORIZED

CHEM SERVICE -- 0-770, ETHYLBENZENECHEM SERVICE -- 0-770, ETHYLBENZENE
MATERIAL SAFETY DATA SHEET
NSN: 681000N033034
Manufacturer's CAGE: 8Y898
Part No. Indicator: A
Part Number/Trade Name: 0-770, ETHYLBENZENE

General Information

Company's Name: CHEM SERVICE INC
Company's Street: 660 TOWER LANE
Company's P. O. Box: 3108
Company's City: WEST CHESTER
Company's State: PA
Company's Country: US
Company's Zip Code: 19381-3108
Company's Emerg Ph #: 215-692-3026
Company's Info Ph #: 215-692-3026
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 002
Status: SMJ
Date MSDS Prepared: 16MAR92
Safety Data Review Date: 28AUG95
MSDS Serial Number: BPLSP
Hazard Characteristic Code: F3

Ingredients/Identity Information

Proprietary: NO
Ingredient: BENZENE, ETHYL-;(ETHYLBENZENE)
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: DA0700000
CAS Number: 100-41-4
OSHA PEL: 100 PPM, 125 STEL
ACGIH TLV: 100 PPM, 125 STEL

Physical/Chemical Characteristics

Appearance And Odor: COLORLESS LIQUID WITH AN AROMATIC ODOR
Boiling Point: 277F,136C
Melting Point: -139F,-95C
Vapor Pressure (MM Hg/70 F): 7.1 @20C
Vapor Density (Air=1): 0.887
Solubility In Water: INSOLUBLE

Fire and Explosion Hazard Data

Flash Point: 71.6F,22C
Lower Explosive Limit: 1%
Upper Explosive Limit: 6.7%
Extinguishing Media: CARBON DIOXIDE, DRY CHEMICAL POWDER OR SPRAY.
Special Fire Fighting Proc: WEAR NIOSH/MSHA APPROVED SCBA & FULL PROTECTIVE EQUIPMENT (FP N).
Unusual Fire And Expl Hazrds: NONE SPECIFIED BY MANUFACTURER.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): NONE SPECIFIED BY MANUFACTURER.
Materials To Avoid: STRONG OXIDIZING AGENTS.
Hazardous Decomp Products: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT.

Health Hazard Data

LD50-LC50 Mixture: LD50:(ORAL RAT):3500 MG/KG.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: CAN CAUSE SKIN AND EYE IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY BE HARMFUL IF INHALED. MAY BE HARMFUL IF SWALLOWED. CAN BE IRRITATING TO MUCOUS MEMBRANES. PROLONGED EXPOSURE MAY CAUSE NAUSEA, HEADACHE, DIZZINESS AND/OR EYE DAMAGE. CAN CAUSE NERVOUS SYSTEM INJURY. DUST &/OR VAPORS (EFTS OF OVEREXP)
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NOT RELEVANT.
Signs/Symptoms Of Overexp: HLTH HAZ:CAN CAUSE IRRITATION TO RESPIRATORY TRACT.
Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.
Emergency/First Aid Proc: EYE:FLUSH CONTINUOUSLY WITH WATER FOR 15-20 MINUTES. SKIN:FLUSH WITH WATER FOR 15-20 MINUTES. IF NO BURNS HAVE OCCURED-USE SOAP & WATER TO CLEANSE SKIN. INHAL:MOVE TO FRESH AIR. GIVE OXYGEN IF PATIENT IS HAVING DIFFICULTY BREATHING. IF PATIENT STOPPED BREATHING, GIVE ARTF RESP. IF PATIENT IS IN CARDIAC ARREST GIVE CPR. CONTINUE LIFE SUPPORTING MEASURES UNTIL MD ARRIVES. INGEST:CALL MD IMMED(FP N)

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: EVACUATE AREA. WEAR APPROPRIATE OSHA REGULATED EQUIPMENT. VENTILATE AREA. ABSORB ON VERMICULITE OR SIMILAR MATERIAL. SWEEP UP AND PLACE IN AN APPROPRIATE CONTAINER. HOLD FOR DISPOSAL. WASH CONTAMINATED SURFACES TO REMOVE ANY RESIDUES.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER. DISPOSAL MUST BE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS (FP N).
Precautions-Handling/Storing: KEEP TIGHTLY CLOSED IN A COOL, DRY PLACE. STORE ONLY WITH COMPATIBLE MATERIALS.
Other Precautions: AVOID CONTACT WITH SKIN, EYES AND CLOTHNG. ALL CHEMICALS SHOULD BE CONSIDERED HAZARDOUS-AVOID DIRECT PHYSICAL CONTACT.

Control Measures

Respiratory Protection: NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSRRE OF CONCERN (FP N).
Ventilation: THIS CHEMICAL SHOULD ONLY BE HANDLED IN A HOOD.
Protective Gloves: IMPERVIOUS GLOVES (FP N).
Eye Protection: CHEMICAL WORKERS GOGGLES (FP N).
Other Protective Equipment: NONE SPECIFIED BY MANUFACTURER.
Work Hygienic Practices: CONTACT LENSES SHOULD NOT BE WORN.
Suppl. Safety & Health Data: NONE SPECIFIED BY MANUFACTURER.

Transportation Data

Trans Data Review Date: 92363
DOT PSN Code: FYP
DOT Proper Shipping Name: ETHYLBENZENE
DOT Class: 3
DOT ID Number: UN1175
DOT Pack Group: II
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: GQL
IMO Proper Shipping Name: ETHYLBENZENE
IMO Regulations Page Number: 3222
IMO UN Number: 1175
IMO UN Class: 3.2
IMO Subsidiary Risk Label: -
IATA PSN Code: LCB
IATA UN ID Number: 1175
IATA Proper Shipping Name: ETHYLBENZENE
IATA UN Class: 3
IATA Label: FLAMMABLE LIQUID
AFI PSN Code: LCB
AFI Prop. Shipping Name: ETHYLBENZENE
AFI Class: 3
AFI ID Number: UN1175
AFI Pack Group: II
AFI Basic Pac Ref: 7-7

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 22JUL92
Label Date: 22JUL92
Label Status: G
Common Name: O-770, ETHYLBENZENE
Chronic Hazard: NO
Signal Word: DANGER!
Acute Health Hazard-Moderate: X
Contact Hazard-Moderate: X
Fire Hazard-Severe: X
Reactivity Hazard-None: X
Special Hazard Precautions: FLAMMABLE-POISON! STORE IN A COOL, DRY PLACE. ACUTE:CAN CAUSE SKIN/EYE IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY BE HARMFUL IF INHALED/SWALLOWED. CAN BE IRRITATING TO MUCOUS MEMBRANES. PROLONGED EXPOSURE MAY CAUSE NAUSEA, HEADACHE, DIZZINESS AND/OR EYE DAMAGE. CAN CAUSE NERVOUS SYSTEM INJURY. DUST AND/OR VAPORS CAN CAUSE IRRITATION TO RESPIRATORY TRACT. CHRONIC:NONE LISTED BY MANUFACTURER.
Protect Eye: Y
Protect Skin: Y
Protect Respiratory: Y
Label Name: CHEM SERVICE INC
Label Street: 660 TOWER LANE
Label P.O. Box: 3108
Label City: WEST CHESTER

Label State: PA
Label Zip Code: 19381-3108
Label Country: US
Label Emergency Number: 215-692-3026

PURE LEAD

PURE LEAD

FSC: 9650
NIIN: 00N052418
NSN: 965000N0524189
MANUFACTURERS CAGE: 9N315
PART NO INDICATOR: A
PART NUMBER TRADE NAME: PURE LEAD

Nuclear Water Data
NUCLEAR WATER FSC:
NUCLEAR WATER NIIN:
NUCLEAR WATER COG:
NUCLEAR WATER NOMENCLATURE:
NUCLEAR WATER REMARKS: QUEMETCO I

Standard PMS Identification Data
SPIN FSC: NC
SPIN NIIN:
SPIN:

General Information
ITEM NAME: 720 SOUTH SEVENTH AVE
MANUFACTURERS NAME: CITY OF INDUSTRY CA
MANUFACTURERS STREET: US91745 214-631-6070
MANUFACTURERS P O BOX:
MANUFACTURERS CITY: 214-631-6070
MANUFACTURERS STATE:
MANUFACTURERS COUNTRY:
MANUFACTURERS ZIP CODE:
MANUFACTURERS EMERG PH:
MANUFACTURERS INFO PH:
DISTRIBUTOR VENDOR 1:
DISTRIBUTOR VENDOR 1 CAGE:
DISTRIBUTOR VENDOR 2:
DISTRIBUTOR VENDOR 2 CAGE:
DISTRIBUTOR VENDOR 3: N 001001SMJ01DEC8825AUG94
DISTRIBUTOR VENDOR 3 CAGE:
DISTRIBUTOR VENDOR 4:
DISTRIBUTOR VENDOR 4 CAGE:
SAFETY DATA ACTION CODE:
SAFETY FOCAL POINT:
RECORD NO FOR SAFETY ENTRY:
TOT SAFETY ENTRIES THIS STK:

STATUS:
DATE MSDS PREPARED:
SAFETY DATA REVIEW DATE:
SUPPLY ITEM MANAGER:
MSDS PREPARERS NAME:
PREPARERS COMPANY:
PREPARERS ST OR P O BOX:
PREPARERS CITY: BVMFX
PREPARERS STATE:
PREPARERS ZIP CODE: NK
OTHER MSDS NUMBER:
MSDS SERIAL NUMBER:
SPECIFICATION NUMBER:
SPEC TYPE GRADE CLASS: SILVER-GREY
HAZARD CHARACTERISTIC CODE: METAL
UNIT OF ISSUE: ,
UNIT OF ISSUE CONTAINER QTY: TARNISHES; NO
TYPE OF CONTAINER: APPARENT ODO
NET UNIT WEIGHT: R
NRC STATE LICENSE NUMBER:
NET EXPLOSIVE WEIGHT:
NET PROPELLANT WEIGHT AMMO: 3164F
COAST GUARD AMMUNITION CODE: ,17

Physical & Chemical Characteristics
APPEARANCE AND ODOR: 40C621F,327C N/A N/A 11.3 (H*20=1) N/K NOT APPLICABLE
BOILING POINT: NEGLIG
MELTING POINT: IBLE
VAPOR PRESSURE MM HG 70 F: N/A
VAPOR DENSITY AIR 1:
SPECIFIC GRAVITY: N/K
DECOMPOSITION TEMPERATURE:
EVAPORATION RATE AND REF: N/K N/A
SOLUBILITY IN WATER: N/P N/
PERCENT VOLATILES BY VOLUME: A
VISCOSITY: N/A
PH: DRY
RADIOACTIVITY: CHEMICAL/CA
FORM RADIOACTIVE MATL: RBON DIO
MAGNETISM MILLIGAUSS: XIDE
CORROSION RATE IPY: SHOULD B
AUTOIGNITION TEMPERATURE: E USED

Fire and Explosion Hazard Data
FLASH POINT: ON SURROUNDING
FLASH POINT METHOD: FIRE.
LOWER EXPLOSIVE LIMIT: DO NOT USE W
UPPER EXPLOSIVE LIMIT: ATER ON FIRE
EXTINGUISHING MEDIA: S WHEN MOLTEN METAL IS PRESENT. USE NIOSH/MSHA APPROVED SCBA OPERATED IN POSITIVE-PRESS MODE AND FULL BODY PROT CLOTHING
SPECIAL FIRE FIGHTING PROC: . MOLTEN METALS PRODUCE FUME, VAPOR, AND/OR DUST THAT MAY BE TOX AND/OR RESP IRRITANTS. TH
UNUSUAL FIRE AND EXPL HAZRDS: E PRODUCT, OR ITS DUST, CAN REACT VIGOROUSLY

W/STRONG OXIDIZING AGENTS. YESNOT APPLICABLE

Reactivity Data
STABILITY:
COND TO AVOID STABILITY: STRONG OXIDIZERS AND THIS PRODUCT MAY LIBERATE HYDROGEN GAS.
MATERIALS TO AVOID: HIGH TEMPERATURES MAY PRODUCE HEAVY METAL FUME, VAPOR AND/OR DUST.
HAZARDOUS DECOMP PRODUCTS: NO NOT RELEVANT.
HAZARDOUS POLY OCCUR:
CONDITIONS TO AVOID POLY: NONE SPECIFIED BY MANUFACTURER. YESNO YESACUTE:IF LEFT UNTREATED:WEAKNESS, VOMIT

Health Hazard Data
LD50 LC50 MIXTURE: , LOSS OF APPETITE, UNCOORDINATED BODY M
ROUTE OF ENTRY INHALATION: OVE
ROUTE OF ENTRY SKIN: MEN
ROUTE OF ENTRY INGESTION: TS,
HEALTH HAZ ACUTE AND CHRONIC: CONVULSIONS, STUPOR & POSSIBLY COMA. INHAL:DUST, VAP AND/OR FUME MAY BE IRRITATING TO RESP SYS & CAN RSLT IN BOTH ACUTE & CHRONIC OVEREXP. SKIN:DUST, VAP AND/OR FUME MAY CAUSE IRRIT. SKIN ABSORP:DUST, VAP AND/OR (EFTS OF OVEREXP) NO NO NO NOT RELEVANT.
CARCINOGENICITY NTP:
CARCINOGENICITY IARC:
CARCINOGENICITY OSHA:
EXPLANATION CARCINOGENICITY: HLTH HAZ:FUME ARE NOT READILY ABSORBED THRU SKIN. EYE:DUST, VAP AND/OR FUME MAY CAUSE IR
SIGNS SYMPTOMS OF OVEREXP: RIT. INGEST:DUST, VAP AND/OR FUME MAY BE ABSORBED BY DIGESTIVE SYS & CAN RSLT IN BOTH ACUTE & CHRONIC OVEREXP. CHRONIC:IF LEFT UNTREATED:WEAK, INSOM, HYPERTENSION, SLIGHT IRRIT TO SKIN & EYES, METALLIC TASTE IN MOUTH, (SUPDAT) CHRONIC FORMS OF KIDNEY, HEMATOPOEITIC AND/ OR NEUROLOGIC DISEASES, PREEXISTING SKIN AND
MED COND AGGRAVATED BY EXP: /OR RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. EYES:FLUSH W/COPIOUS QTYS OF COOL WATER FOR AT LEAST 15 MIN. GET IMMED MED ATTN. SKIN:WA
EMERGENCY FIRST AID PROC: SH THORO W/SOAP & WATER. INHAL: REMOVE FROM EXPOS. GET MED ATTN IF EXPERIENCING EFTS OF OVEREXP. INGEST:GET IMMED MED ATTN. NOTES TO PHYS:LEAD & ITS INORGAN CMPDS ARE NEUROTOXINS WHICH MAY PRODUCE PERIPHERAL NEUROPATHY. FOR AN OVERVIEW OF EFTS OF LEAD EXPOS, CONSULT OCCUP SFTY & HLTH ADMIN APPENDIX A OF (ING 13DUST MATL SHOULD BE VACUUMED, OR WET SWEPT WHERE VACUUMING IS NOT FEASIBLE. PARTICULATE

Precautions for Safe Handling and Use
STEPS IF MATL RELEASED SPILL: MATTER SHOULD BE STORED IN DRY CNTNRS FOR LATER DISP. DO NOT USE COMPRESSED AIR/DRY SWEEPING AS A MEANS OF CLEANING. NOT APPLICABLE DISPOSE
NEUTRALIZING AGENT: OF TOX SUBSTANCES AND HAZARDOUS WASTES IN ACCORDANCE WITH LOCAL, STATE AND FEDER
WASTE DISPOSAL METHOD: AL REGULATIONS. STORE IN COOL, DRY AREA WHERE ACCIDENTAL CONT W/ACIDS IS NOT POSS. AVOID SKIN CONT.
PRECAUTIONS HANDLING STORING: ADHERE TO ALL PERS PROT EQUIP PROCEDURES WHEN

HANDLING, & VENT REQUIREMENTS WHEN HEAVY M
OTHER PRECAUTIONS: ETAL EXPOSURES ARE ABOVE PEL OR THRESHOLD LIM VALUES. WORK CLOTHES & EQUIP SHOULD REMAIN IN DESIGNATED LEAD CONTAMD AREAS, & NEVER TAKEN HOME (ING 2) NIOSH/MSHA APPRVD RESP APPROP FOR EXPOS OF CONCERN (FP N). AS SPECIFIED BY 29CFR1910.102

Control Measures
RESPIRATORY PROTECTION: 5 SUBPART (F) OF THE FED OCCUP SFTY & HLTH ADMIN STD OCCUP EXPOS TO LEAD. OTHER (ING 5) VENT, AS DESCRIBED IN INDUS VENT, A MANUAL OF REC PRACTICE PRODUCED BY AMERICAN CONFEREN
VENTILATION: CE OF GOVT INDUS (ING 6) IMPERVIOUS GLOVES (FP N). VENTED GOGG/FACE SHIELD. COVERALL
PROTECTIVE GLOVES: S/OTHER FULL BODY CLTHG SHALL BE WORN DU
EYE PROTECTION: RING PROD USE & PROPERLY LAUNDERED AFTER
OTHER PROTECTIVE EQUIPMENT: USE, W/WASH WATER (ING 8) NORMAL, GOOD PERS HYGIENE PRIOR TO SMOKING, EATING/DRINKING. SMOKING, EATING & DRINKING
WORK HYGIENIC PRACTICES: SHOULD BE CONFINED TO (ING 10) EFTS OF OVEREXP:ANEMIA, CONSTIP, HDCH, MUSCLE & JOINT PAINS, NEUROMUSCULAR DYSFUNCTION,
SUPPL SAFETY HEALTH DATA: POSS PARAL & ENCEPHALOPATHY. LEAD EXPOS CAN POSE RISK TO DEVELOPING FETUSES & MAY ALSO IMPAIR REPROD SYS IN BOTH MEN & WOMEN. DMG TO KIDNEYS, HEMATOPOEITIC AND/OR CNS MAY OCCUR. LEAD APPEARS ON NAVY LISTING OF OCCUP CHEM (ING 11)

Transportation Data
TRANSPORTATION ACTION CODE:
TRANSPORTATION FOCAL POINT:
TRANS DATA REVIEW DATE:
DOT PSN CODE:
DOT SYMBOL:
DOT PROPER SHIPPING NAME:
DOT CLASS:
DOT ID NUMBER:
DOT PACK GROUP:
DOT LABEL:
DOT DOD EXEMPTION NUMBER:
IMO PSN CODE:
IMO PROPER SHIPPING NAME:
IMO REG PAGE NUMBER:
IMO UN NUMBER:
IMO UN CLASS:
IMO SUBSID RISK LABEL:
IATA PSN CODE:
IATA UN ID NUMBER:
IATA PROPER SHIP NAME:
IATA UN CLASS:
IATA SUBSID RISK CLASS:
IATA LABEL:
AFI PSN CODE:
AFI SYMBOLS:
AFI PROP SHIPPING NAME:
AFI CLASS:
AFI ID NUMBER:
AFI PACK GROUP:

AFI LABEL:
AFI SPECIAL PROV:
AFI BASIC PAC REF:
MMAC CODE:
N O S SHIPPING NAME:
ADDITIONAL TRANS DATA:

Disposal Data
DISPOSAL DATA ACTION CODE:
DISPOSAL DATA FOCAL POINT:
DISPOSAL DATA REVIEW DATE:
RECNUM FOR THIS DISP ENTR:
TOT DISP ENTRIES PER NSN:
LANDFILL BAN ITEM:
DISPOSAL SUPPLEMENTAL DAT:
EPAHAZWST 1ST CODE NEW:
EPAHAZWST 1ST NAME NEW:
EPAHAZWST 1ST CHAR NEW:
EPAACUTEHAZARD 1ST NEW:
EPAHAZWST 2ND CODE NEW:
EPAHAZWST 2ND NAME NEW:
EPAHAZWST 2ND CHAR NEW:
EPAACUTEHAZARD 2ND NEW:
EPAHAZWST 3RD CODE NEW:
EPAHAZWST 3RD NAME NEW: YES25AUG9429AUG94 G PURE LEAD
EPAHAZWST 3RD CHAR NEW:
EPAACUTE 3RD HAZARD NEW:

Label Data
LABEL REQUIRED:
TECHNICAL REVIEW DATE: YES
LABEL DATE: CAUTION
MFR NUMBER: ! X X X X
LABEL STATUS: A
COMMON NAME: CUTE:INHALATION:DUST, VAPOR AND/OR FUME MAY IRRITATE RESPIRA
CHRONIC HAZARD: TOR
SIGNAL WORD: Y SYSTEM
ACUTE HEALTH HAZARD NONE: .
ACUTE HEALTH HAZARD SLIGHT:
ACUTE HEALTH HAZARD MODERATE: I
ACUTE HEALTH HAZARD SEVERE: N
CONTACT HAZARD NONE: G
CONTACT HAZARD SLIGHT: E
CONTACT HAZARD MODERATE: S
CONTACT HAZARD SEVERE: T
FIRE HAZARD NONE: I
FIRE HAZARD SLIGHT: O
FIRE HAZARD MODERATE: N
FIRE HAZARD SEVERE: :
REACTIVITY HAZARD NONE: D
REACTIVITY HAZARD SLIGHT: U
REACTIVITY HAZARD MODERATE: S
REACTIVITY HAZARD SEVERE: T

SPECIAL HAZARD PRECAUTIONS: , VAPOR AND/OR FUME MAY BE ABSORBED BY DIGESTIVE SYSTEM AND CAN RESULT IN OVEREXPOSURE. SKIN CONTACT: DUST, VAPOR AND/OR FUME MAY CAUSE IRRITATION. EYE CONTACT:DUST, VAPOR AND/ OR FUME MAY CAUSE IRRITATION. IF ANY EXPOSURE LEFT UNTREATED, WEAKNESS, VOMITING, LOSS OF APPETITE, UNCOORDINATED BODY MOVEMENTS, CONVULSIONS, STUPOR AND POSSIBLY COMA. CHRONIC:LEAD APPEARS ON NAVY OCCUPATIONAL CHEMICAL REPRODUCTIVE HAZARDS LIST (FP N). CAN DAMAGE KIDNEYS, BLOOD FORMING SYSTEM OR CNS. YYYQUEMETCO INC 720 SOUTH SEVENTH AVE
PROTECT EYE:
PROTECT SKIN:
PROTECT RESPIRATORY:
LABEL NAME: CITY OF INDUSTRY CA
LABEL STREET: 91745 US214-631-6070
LABEL P O BOX:
LABEL CITY:
LABEL STATE:
LABEL ZIP CODE:
LABEL COUNTRY:
LABEL EMERGENCY NUMBER:
YEAR PROCURED:
FIRE HAZARD SEVERE: :
REACTIVITY HAZARD NONE: D
REACTIVITY HAZARD SLIGHT: U
REACTIVITY HAZARD MODERATE: S
REACTIVITY HAZARD SEVERE: T
SPECIAL HAZARD PRECAUTIONS: , VAPOR AND/OR FUME MAY BE ABSORBED BY DIGESTIVE SYSTEM AND CAN RESULT IN OVEREXPOSURE. SKIN CONTACT: DUST, VAPOR AND/OR FUME MAY CAUSE IRRITATION. EYE CONTACT:DUST, VAPOR AND/ OR FUME MAY CAUSE IRRITATION. IF ANY EXPOSURE LEFT UNTREATED, WEAKNESS, VOMITING, LOSS OF APPETITE, UNCOORDINATED BODY MOVEMENTS, CONVULSIONS, STUPOR AND POSSIBLY COMA. CHRONIC:LEAD APPEARS ON NAVY OCCUPATIONAL CHEMICAL REPRODUCTIVE HAZARDS LIST (FP N). CAN DAMAGE KIDNEYS, BLOOD FORMING SYSTEM OR CNS. YYYQUEMETCO INC 720 SOUTH SEVENTH AVE
PROTECT EYE:
PROTECT SKIN:
PROTECT RESPIRATORY:
LABEL NAME: CITY OF INDUSTRY CA
LABEL STREET: 91745 US214-631-6070
LABEL P O BOX:
LABEL CITY:
LABEL STATE:
LABEL ZIP CODE:
LABEL COUNTRY:
LABEL EMERGENCY NUMBER:
YEAR PROCURED:

Page Created 10/25/97 11:51:01 AM

WEISS INSTRUMENTS -- THERMOMETER-INDUSTRIAL 5,7,9 OR 12" CASE - THERMOMETER,SELF-INDICATING,LIQUID IN GLASSWEISS INSTRUMENTS -- THERMOMETER-INDUSTRIAL 5,7,9 OR 12" CASE - THERMOMETER,SELF-INDICATING,LIQUID IN GLASS
MATERIAL SAFETY DATA SHEET
NSN: 6685002422158
Manufacturer's CAGE: 14449
Part No. Indicator: A
Part Number/Trade Name: THERMOMETER-INDUSTRIAL 5,7,9 OR 12" CASE

General Information

Item Name: THERMOMETER,SELF-INDICATING,LIQUID IN GLASS
Company's Name: WEISS INSTRUMENTS INC
Company's Street: 85 BELL ST
Company's City: WEST BABYLON
Company's State: NY
Company's Country: US
Company's Zip Code: 11704-1086
Company's Emerg Ph #: 516-752-1655,800-424-9300(CHEMTREC)
Company's Info Ph #: 516-752-1655
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SE
Date MSDS Prepared: 26OCT90
Safety Data Review Date: 10MAY94
Supply Item Manager: CX
MSDS Preparer's Name: NONE
MSDS Serial Number: BTHLX
Specification Number: GG-T-321
Hazard Characteristic Code: J6
Unit Of Issue: EA
Unit Of Issue Container Qty: THERMOMETER
Type Of Container: UNKNOWN
Net Unit Weight: UNKNOWN

Ingredients/Identity Information

Proprietary: NO
Ingredient: MERCURY (SARA III)
Ingredient Sequence Number: 01
Percent: 100
NIOSH (RTECS) Number: OV4550000
CAS Number: 7439-97-6
OSHA PEL: S, C, 0.1 MG/M3
ACGIH TLV: S, 0.05 MG/M3; 9394
Other Recommended Limit: NONE RECOMMENDED

Physical/Chemical Characteristics

Appearance And Odor: SILVER WHITE LIQUID METAL IN GLASS. ODORLESS.
Boiling Point: 676F,358C
Melting Point: -38F,-39C
Vapor Pressure (MM Hg/70 F): 0.0019
Vapor Density (Air=1): 7.0
Specific Gravity: 13.54
Decomposition Temperature: UNKNOWN
Evaporation Rate And Ref: UNKNOWN

Solubility In Water: INSOLUBLE
Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: NON-FLAMMABLE
Extinguishing Media: NOT COMBUSTIBLE. USE MEDIA SUITABLE FOR SURROUNDING FIRE.
Special Fire Fighting Proc: WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A FULL FACED SELF CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY. CONTAIN RUNOFF.
Unusual Fire And Expl Hazrds: MERCURY IS NOT COMBUSTIBLE, BUT WILL VAPORIZE RAPIDLY WHEN HEATED, CREATING TOXIC FUMES.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): EXTREMELY HIGH TEMPERATURES BEYOND MEASURING RANGE OF THERMOMETER
Materials To Avoid: MERCURY FORMS AMALGAMS WITH SILVER AND GOLD.
Hazardous Decomp Products: MERCURY FUMES AND MERCURY COMPOUNDS ARE INDUSTRIAL POISONS.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): WILL NOT OCCUR.

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50 (RAT) IS UNKNOWN.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: THERMOMETER CONTAINS SMALL AMOUNT OF MERCURY ACUTE: INHALATION OF HIGH CONCENTRATIONS OF MERCURY VAPOR CAN CAUSE KIDNEY, LIVER,CNS DAMAGE. CHRONIC: EXPOSURE TO MERCURY OVER LONG PERIOD OF TIME MAY CAUSE TREMORS,IRRITABILITY,KIDNEY,LIVER,CNS DAMAGE.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE
Signs/Symptoms Of Overexp: FOR MERCURY ITSELF: ACUTE POISONING THROUGH MASSIVE INHALATION OF MERCURY FUMES IS RARE. SYMPTOMS ARE, COUGH, FEVER, METALLIC TASTE. CHRONIC EXPOSURE OVER A LONG PERIOD OF TIME MAY CAUSE TREMORS, IRRITABILITY, KIDNEY, LIVER, AND CENTRAL NERVOUS SYSTEM DAMAGE.
Med Cond Aggravated By Exp: PERSONS WITH CHRONIC DISEASE OR IN POOR HEALTH, SHOULD BE EXCLUDED FROM MERCURY WORK AREA.
Emergency/First Aid Proc: FOR MERCURY ITSLF: GET MEDICAL ATTENTION IF EXPOSED TO MERCURY FUMES OR INGESTED MERCURY LIQUID.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: TAKE UP WITH ABSORBENT MATERIALS AND PLACE IN CONTAINER FOR LATER DISPOSAL OR RECLAMATION.
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: DISPOSE OF WASTE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
Precautions-Handling/Storing: HANDLE AND STORE THERMOMETER WITH CARE.
Other Precautions: INSPECT THERMOMETER FOR DAMAGE BEFORE HANDLING OR

STORAGE.

Control Measures

Respiratory Protection: NONE NORMALLY REQUIRED FOR MERCURY THERMOMETER. IF RESPIRATORY PROTECTION NEEDED FOR MERCURY USE A NIOSH/MSHA CERTIFIED RESPIRATOR OR MASK.
Ventilation: NONE NORMALLY REQUIRED FOR MERCURY THERMOMETER.
Protective Gloves: NONE REQUIRED FOR MERCURY THERMOMETER.
Eye Protection: NONE REQUIRED FOR MERCURY THERMOMETER.
Other Protective Equipment: NONE NORMALLY REQUIRED FOR THERMOMETER.
Work Hygienic Practices: OBSERVE GOOD PERSONAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES.
Suppl. Safety & Health Data: MERCURY IS A PROBLEM ONLY IF THERMOMETER IS BROKEN AND MERCURY RELEASED. THERMOMETER CONTAINS APPROXIMATELY 0.45 CC OF MERCURY.

Transportation Data

Trans Data Review Date: 94130
DOT PSN Code: IZP
DOT Symbol: A
DOT Proper Shipping Name: MERCURY
DOT Class: 8
DOT ID Number: UN2809
DOT Pack Group: I
DOT Label: CORROSIVE
IMO PSN Code: ZZZ
IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION
IATA PSN Code: QBQ
IATA UN ID Number: 2809
IATA Proper Shipping Name: MERCURY CONTAINED IN MANUFACTURED ARTICLES
IATA UN Class: 8
IATA Label: CORROSIVE
AFI PSN Code: PYK
AFI Prop. Shipping Name: MERCURY CONTAINED IN MANUFACTURED ARTICLES
AFI Class: 8
AFI ID Number: UN2809
AFI Pack Group: I
AFI Basic Pac Ref: 12-13
Additional Trans Data: THERMOMETER CONTAINS 0.45 CC LIQUID MERCURY METAL. INSPECT CAREFULLY FOR BREAKAGE OR DAMAGE.

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 10MAY94
Label Status: F
Common Name: THERMOMETER-INDUSTRIAL 5,7,9 OR 12" CASE
Chronic Hazard: NO
Signal Word: NONE
Acute Health Hazard-None: X
Contact Hazard-None: X
Fire Hazard-None: X

Reactivity Hazard-None: X
Special Hazard Precautions: THERMOMETER CONTAINS SMALL AMOUNT OF MERCURY ACUTE: INHALATION OF HIGH CONCENTRATIONS OF MERCURY VAPOR CAN CAUSE KIDNEY, LIVER,CNS DAMAGE. CHRONIC: EXPOSURE TO MERCURY OVER LONG PERIOD OF TIME MAY CAUSE TREMORS,IRRITABILITY,KIDNEY,LIVER,CNS DAMAGE. HANDLE AND STORE THERMOMETER WITH CARE. TAKE UP SPILLED MERCURY WITH ABSORBENT AND PLACE IN CONTAINER FOR DISPOSAL OR RECLAMATION. FIRST AID: FOR MERCURY ITSELF: GET MEDICAL ATTENTION IF EXPOSED TO MERCURY FUMES OR INGESTED MERCURY LIQUID. KIDNEYS,LIVER,CNS.
Label Name: WEISS INSTRUMENTS INC
Label Street: 85 BELL ST
Label City: WEST BABYLON
Label State: NY
Label Zip Code: 11704-1086
Label Country: US
Label Emergency Number: 516-752-1655,800-424-9300(CHEMTREC)

PHIPPS PRODUCTS -- TOLUENE - TOLUENE,TECHNICALPHIPPS PRODUCTS -- TOLUENE - TOLUENE,TECHNICAL
MATERIAL SAFETY DATA SHEET
NSN: 6810002900048
Manufacturer's CAGE: 86511
Part No. Indicator: A
Part Number/Trade Name: TOLUENE

General Information

Item Name: TOLUENE,TECHNICAL
Company's Name: PHIPPS PRODUCTS CORP
Company's Street: OUT OF BUSINESS
Company's City: BOSTON
Company's State: MA
Company's Country: US
Company's Emerg Ph #: OUT OF BUSINESS
Company's Info Ph #: 804-279-4371 (HMIS)
Record No. For Safety Entry: 016
Tot Safety Entries This Stk#: 017
Status: SD
Date MSDS Prepared: 19AUG94
Safety Data Review Date: 19AUG94
Supply Item Manager: CX
MSDS Preparer's Name: DGSC-SHH
Preparer's Company: DEFENSE GENERAL SUPPLY CENTER
Preparer's St Or P. O. Box: 8000 JEFFERSON-DAVIS HIGHWAY
Preparer's City: RICHMOND
Preparer's State: VA
Preparer's Zip Code: 23297-5680
MSDS Serial Number: BTTGM
Specification Number: TT-T-548
Spec Type, Grade, Class: NONE
Hazard Characteristic Code: F3
Unit Of Issue: CN
Unit Of Issue Container Qty: 5.0 GAL
Type Of Container: CAN
Net Unit Weight: 7.2 LBS
NRC/State License Number: NOT RELEVANT

Ingredients/Identity Information

Proprietary: NO
Ingredient: TOLUENE (SARA III)
Ingredient Sequence Number: 01
Percent: 100
NIOSH (RTECS) Number: XS5250000
CAS Number: 108-88-3
OSHA PEL: 200 PPM; Z-2.
ACGIH TLV: S, 50 PPM; 9394
Other Recommended Limit: NONE RECOMMENDED

Physical/Chemical Characteristics

Appearance And Odor: CLEAR LIQUID, AROMATIC ODOR
Boiling Point: 230F,110C
Vapor Pressure (MM Hg/70 F): 36 @ 86F

Vapor Density (Air=1): 3.1
Specific Gravity: 0.870
Decomposition Temperature: NOT KNOWN
Evaporation Rate And Ref: UNKNOWN
Solubility In Water: INSOLUBLE
Percent Volatiles By Volume: 100
Corrosion Rate (IPY): UNKNOWN
Autoignition Temperature: 896F

Fire and Explosion Hazard Data

Flash Point: 40.0F,4.4C
Flash Point Method: TCC
Lower Explosive Limit: 1.4
Upper Explosive Limit: 7.6
Extinguishing Media: USE CARBON DIOXIDE, FOAM/DRY CHEMICAL. WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL & DISPERSE VAPORS.
Special Fire Fighting Proc: WEAR NIOSH-APPROVED+PRESSURE SELF-CONTAINED BREATHING APPARATUS + FULL FACEPIECE. FOR MASSIVE FIRE, USE UNMANNED HOSE HOLDER. MOVE CONTAINERS AWAY IF POSSIBLE.
Unusual Fire And Expl Hazrds: VAPORS HEAVIER THAN AIR, CAN TRAVEL A LONG DISTANCE TO A SOURCE OF IGNITION AND FLASHBACK. WATER MAY BE INEFFECTIVE. CONTAINERS MAY EXPLODE DUE TO HEAT OF FIRE.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): HEAT, SPARKS, OPEN FLAMES HOT SURFACES, STATIC ELECTRICITY
Materials To Avoid: STRONG OXIDIZERS
Hazardous Decomp Products: MAY FORM SMOKE, TOXIC LEVELS OF CARBON MONOXIDE, CARBON DIOXIDE, IRRITATING ALDEHYDES AND KETONES.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT

Health Hazard Data

LD50-LC50 Mixture: LD50 (ORAL RAT) IS UNKNOWN.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: TARGET ORGANS:CNS, EYES, SKIN, LUNGS, GI TRACTS. ACUTE- MAY CAUSE EYE & SKIN IRRITATION. PROLONGED/REPEATED SKIN CONTACT MAY RESULT IN ABSORPTION. VAPORS/MIST MAY IRRITATE RESPIRATORY TRACT. IF MORE THAN SEVERAL MOUTHFULS ARE SWALLOWED, ABDOMINAL DISCOMFORT, NAUSEA, DIARRHEA MAY OCCUR. CHRONIC- MAY CAUSE CNS EFFECTS.
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE
Signs/Symptoms Of Overexp: EYES, SKIN, RESPIRATORY TRACT IRRITATION, HEADACHE, DIZZINESS, NAUSEA, VOMITING, DIARRHEA, WEAKNESS, CONFUSION, IMPAIRED COORDIANTION, DRYING SKIN, COUGHING, NASAL DISCHARGE, DIFFICULTY IN BREATHING AND DROWSINESS
Med Cond Aggravated By Exp: PERSONS WITH PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS OR IMPAIRED LIVER, KIDNEY, RESPIRATORY OR NERVOUS SYSTEM FUNCTION MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS PRODUCT.

Emergency/First Aid Proc: GET MEDICAL ATTENTION IF SYMPTOMS PERSIST.
SKIN:WASH WITH SOAP & WATER. EYE:FLUSH WITH WATER FOR 15 MINUTES, HOLDING EYELIDS OPEN. INHALED:REMOVE TO FRESH AIR & PROVIDE OXYGEN/CPR IF NEEDED. ORAL:GET IMMEDIATE MEDICAL ATTENTION. ONLY INDUCE VOMITING AS DIRECTED BY A DOCTOR. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: WEAR PROTECTIVE EQUIPMENT. ELIMINATE SOURCES OF IGNITION. VENTILATE AREA. CONTAIN SPILL. PICK UP SPILL WITH NON-FLAMMABLE ABSORBENT MATERIAL SUCH AS SAND. PLACE IN CONTAINER FOR DISPOSAL. PREVENT LIQUID FROM ENTERING SEWERS, WATERWAYS OR LOW AREAS.
Neutralizing Agent: NOT RELEVANT
Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. THIS PRODUCT HAS THE RCRA CLASSIFICATION OF BENZENE TOXICITY AND IGNITABILITY. IF DISCARDED IN ITS PRESENT FORM, IT WOULD HAVE HAZARDOUS WASTE NUMBERS D018 AND D001 RESPECTIVELY.
Precautions-Handling/Storing: STORE IN COOL, VENTILATED AREA, AWAY FROM HEAT, FLAMES & INCOMPATIBLES. OUTSIDE STORAGE PREFERRED. FOR INSIDE USE STANDARD FLAMMABLE LIQUID STOREROOM.
Other Precautions: "EMPTY" CONTAINERS RETAIN RESIDUE AND CAN BE DANGEROUS. DO NOT WELD, SOLDER OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS. THEY MAY EXPLODE AND CAUSE INJURY/DEATH. GROUND & BOUND SHIPPING CONTAINER. AVOID REPEATED/PROLONGED SKIN CONTACT.

Control Measures

Respiratory Protection: IF WORKING IN A CONFINED AREA OR FIGHTING FIRE, USE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS OR SUPPLIED AIR RESPIRATOR WITH FULL FACEPIECE, OPERATED IN POSITIVE PRESSURE MODE.
Ventilation: MECHANICAL (GENERAL AND/OR LOCAL EXHAUST, EXPLOSION-PROOF) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).
Protective Gloves: PVA, NITRILE
Eye Protection: SPLASH-PROOF GOFGGLES(NO CONTACT LENSES)
Other Protective Equipment: IMPERVIOUS CLOTHING, COVERALLS OR LAB COAT, EMERGENCY SHOWER, EYE WASH STATION
Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING. AVOID BREATHING VAPORS OR MISTS.
Suppl. Safety & Health Data: NO MSDS WAS AVAILABLE FROM MANUFACTURER. THIS MSDS WAS GENERATED BY PROFESSIONAL OF DGSC. NOTE TO PHYSICIAN: ASPIRATION DURING INDUCED EMESIS CAN RESULT IN LUNG INJURY. GASTRIC LAVAGE AFTER ENDOTRACHEAL INTUBATION IS RECOMMENDED.

Transportation Data

Trans Data Review Date: 94231
DOT PSN Code: OJY
DOT Proper Shipping Name: TOLUENE
DOT Class: 3
DOT ID Number: UN1294
DOT Pack Group: II
DOT Label: FLAMMABLE LIQUID
IMO PSN Code: OSR
IMO Proper Shipping Name: TOLUENE
IMO Regulations Page Number: 3285
IMO UN Number: 1294
IMO UN Class: 3.2

IMO Subsidiary Risk Label: -
IATA PSN Code: YEL
IATA UN ID Number: 1294
IATA Proper Shipping Name: TOLUENE
IATA UN Class: 3
IATA Label: FLAMMABLE LIQUID
AFI PSN Code: YEL
AFI Prop. Shipping Name: TOLUENE
AFI Class: 3
AFI ID Number: UN1294
AFI Pack Group: II
AFI Basic Pac Ref: 7-7

Disposal Data

Label Data

Label Required: YES
Technical Review Date: 19AUG94
MFR Label Number: UNKNOWN
Label Status: F
Common Name: TOLUENE
Signal Word: DANGER!
Acute Health Hazard-Moderate: X
Contact Hazard-Moderate: X
Fire Hazard-Severe: X
Reactivity Hazard-None: X
Special Hazard Precautions: TARGET ORGANS:CNS, EYES, SKIN, LUNGS, GI TRACTS. ACUTE- MAY CAUSE EYE & SKIN IRRITATION. PROLONGED/REPEATED SKIN CONTACT MAY RESULT IN ABSORPTION. VAPORS/MIST MAY IRRITATE RESPIRATORY TRACT. IF INGESTED, MAY CAUSE NAUSEA, DIARRHEA. CHRONIC- CNS EFFECTS. STORE IN COOL, VENTILATED AREA. PICK UP SPILL WITH NON-FLAMMABLE ABSORBENT. FIRST AID- GET MEDICAL ATTENTION IF SYMPTOMS PERSIST. SKIN:WASH WITH SOAP & REMOVE TO FRESH AIR & PROVIDE OXYGEN/CPR IF NEEDED. ORAL:GET IMMEDIATE MEDICAL ATTENTION. ONLY INDUCE VOMITING AS DIRECTED BY A DOCTOR.
Protect Eye: Y
Protect Skin: Y
Label Name: PHIPPS PRODUCTS CORP
Label Street: OUT OF BUSINESS
Label City: BOSTON
Label State: MA
Label Country: US
Label Emergency Number: OUT OF BUSINESS

UNITEX -- XYLENEUNITEX -- XYLENE
MATERIAL SAFETY DATA SHEET
NSN: 681000F048185
Manufacturer's CAGE: 0DTP3
Part No. Indicator: A
Part Number/Trade Name: XYLENE

General Information

Company's Name: UNITEX
Company's Street: 3101 GARDNER
Company's City: KANSAS CITY
Company's State: MO
Company's Country: US
Company's Zip Code: 64120
Company's Emerg Ph #: 816-231-7700
Company's Info Ph #: 816-231-7700
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 001
Status: SE
Date MSDS Prepared: 01DEC94
Safety Data Review Date: 03JUN96
Preparer's Company: UNITEX
Preparer's St Or P. O. Box: 3101 GARDNER
Preparer's City: KANSAS CITY
Preparer's State: MO
Preparer's Zip Code: 64120
MSDS Serial Number: BZFBX

Ingredients/Identity Information

Proprietary: NO
Ingredient: XYLENE, DIMETHYLBENZENE, XYLOL (IARC - GROUP 3) *96-1*
Ingredient Sequence Number: 01
Percent: 100
NIOSH (RTECS) Number: ZE2100000
CAS Number: 1330-20-7
OSHA PEL: 100 PPM
ACGIH TLV: 100 PPM, SKIN
Other Recommended Limit: 100 PPM

Physical/Chemical Characteristics

Appearance And Odor: CLEAR WATER WHITE W/AROMATIC ODOR
Boiling Point: 278-288F
Vapor Pressure (MM Hg/70 F): 9.5
Vapor Density (Air=1): 4.5
Specific Gravity: 0.87
Evaporation Rate And Ref: (N-BU AC = 1): 0.7
Solubility In Water: NEGLIGIBLE
Percent Volatiles By Volume: 100

Fire and Explosion Hazard Data

Flash Point: 82F
Flash Point Method: TCC
Lower Explosive Limit: 1.1

Extinguishing Media: NFPA CLASS B EXTINGUISHER, CO2, DRY CHEMICAL/FOAM.
Special Fire Fighting Proc: WATER SPRAY MAY BE INEFFECTIVE ON FIRE, PROTECT FIRE-FIGHTERS & COOL CLOSED CONTAINERS. USE FOG NOZZLES IF WATER IS USED. USE AIR SUPPLIED BREATHING MASKS.
Unusual Fire And Expl Hazrds: CLOSED CONTAINER MAY EXPLODE IF EXPOSED TO EXTREME HEAT.

Reactivity Data

Stability: YES
Cond To Avoid (Stability): HEAT, SPARKS, OPEN FLAME/OTHER SOURCES OF IGNITION. TEMPS >120F.
Materials To Avoid: STRONG OXIDIZERS, PERMANGANATE
Hazardous Decomp Products: CO, CO2
Hazardous Poly Occur: NO

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50(RAT): 4300 MG/KG
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: NO
Route Of Entry - Ingestion: YES
Health Haz Acute And Chronic: SKIN: IRRITATION. INHALATION: MAY CAUSE HARMFUL!
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE
Signs/Symptoms Of Overexp: IRRITATION, DIZZINESS, UNCONSCIOUSNESS, COMA.
Emergency/First Aid Proc: EYES: FLUSH W/LARGE AMOUNTS OF WATER FOR 15 MINS. SKIN: FLUSH W/WATER. INHALATION: REMOVE TO FRESH AIR. OBTAIN MEDICAL ATTENTION IN ALL CASES.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: ISOLATE FROM SOURCES OF IGNITION. MOP UP & CONTAINERIZE.
Waste Disposal Method: DISPOSE/INCINERATE IAW/FEDERAL, STATE & LOCAL REGULATIONS. FLAMMABLE LIQUID UN1307.
Precautions-Handling/Storing: DON'T STORE >120F. KEEP AWAY FROM HEAT & OPEN FLAME. USE ONLY W/ADEQUATE VENTILATION. KEEP CONTAINER CLOSED WHEN NOT IN USE. FOR INDUSTRIAL USE ONLY!
Other Precautions: DANGER! FLAMMABLE! STORE LARGE AMOUNTS IN STRUCTURES MADE FOR NFPA FLAMMABLE LIQUIDS. EMPTY CONTAINER HAZARDOUS. CONTINUE ALL LABEL PRECAUTIONS. AVOID PROLONGED BREATHING OF VAPOR/SPRAY MIST & CONTACT W/SKIN.

Control Measures

Respiratory Protection: USE NIOSH APPROVED RESPIRATOR FOR EMERGENCY USE.
Ventilation: LOCAL EXHAUST: PREFERABLE. MECHANICAL EQUIPMENT: ACCEPTABLE.
Protective Gloves: REQUIRED
Eye Protection: SAFETY GOGGLES
Other Protective Equipment: PROTECTIVE EQUIPMENT.

Transportation Data

Disposal Data

Label Data

Label Required: YES
Label Status: G
Common Name: XYLENE
Special Hazard Precautions: SKIN: IRRITATION. INHALATION: MAY CAUSE HARMFUL! IRRITATION, DIZZINESS, UNCONSCIOUSNESS, COMA.
Label Name: UNITEX
Label Street: 3101 GARDNER
Label City: KANSAS CITY
Label State: MO
Label Zip Code: 64120
Label Country: US
Label Emergency Number: 816-231-7700