May 8, 2018

Charlotte B. Theobald
New York State Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, New York 14414

Re: Pilot Test Work Plan Addendum
Eldre Corporation
1500 Jefferson Road & 55 Hofstra Road
Henrietta, New York
NYSDEC BCP Site C828182
LaBella Project No. 212721.01

Dear Ms. Theobald,

LaBella Associates, D.P.C. (LaBella) is submitting this addendum to the *Pilot Test & Supplemental Soil Sampling Work Plan ("Pilot Test Work Plan")* dated August 19, 2016 and approved in a letter dated April 27, 2017 for the above referenced New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site (BCP ID No. C828182) located at 1500 Jefferson Road and 55 Hofstra Road in the Town of Henrietta, New York, herein after referred to as "the Site."

Work detailed in the Pilot Test Work Plan was completed from December 2017 through April 2018. Investigative data (i.e., surface soil sampling and soil borings) is being included in a revised Remedial Investigation (RI) Report. The pilot test completed to date will be detailed in a Remedial Alternatives Analysis (RAA) Report and is summarized herein. The purpose of the initial pilot test was to assess the feasibility of placing in-situ chemical oxidation (ISCO) chemicals using pneumatic injection techniques. The ISCO approach would treat chlorinated volatile organic compounds (CVOCs), specifically trichloroethene (TCE) and associated breakdown compounds in soil and groundwater beneath the northern portion of the 1500 Jefferson Road building. This addendum is for completion of a supplemental pilot test to evaluate feasibility of ISCO using a different injection method, hydraulic injections.

Initial Pilot Test Summary

The initial pilot test was conducted from March 5 to March 12, 2018 on the northern exterior of the 1500 Jefferson Road Building in the location shown on Figure 1. The initial pilot test consisted of pneumatic enhancement of soils using nitrogen gas, followed by injection of a propant mixture consisting of water, sand, guar and a breaker enzyme to increase surface area by creating fractures in the subsurface silt and clay. Pneumatic enhancement and injection of the propant mixture was completed in 3.5-foot (ft) vertical intervals at depths ranging from approximately 7.5 to 18-ft below ground surface (bgs) starting at the bottom of the injection point and working towards the ground surface. Packers were inflated above and below the injection nozzle in attempts to seal off the

formation and isolate a 3.5-ft interval. Subsequently, 2-inch pre-packed injection wells were constructed and sodium permanganate was pumped into the injection wells. Three (3) pneumatic injections were completed using pressures up to 200 pounds per square inch (psi) and a total of approximately 385 gallons of sodium permanganate was injected to the subsurface. All of the planned treatment chemical was distributed into the subsurface and daylighting of sodium permanganate did not occur. Structural monitoring was conducted in accordance with the Pilot Test Work Plan and movement of the building (walls, columns, floor) was not observed. Movement of exterior infrastructure including asphalt pavement and concrete pads beneath a HVAC unit and trash compactor was observed; however, all movement recorded was below the 0.5-inch action level as specified in the Pilot Test Work Plan.

On April 2, 2018, a Geoprobe 6620DT was utilized to advance a series of nine (9) soil borings at varying distances from the injection wells to visually assess for distribution of the sodium permanganate as demonstrated by its purple color. Sodium permanganate was observed in two (2) of the nine (9) soil borings (SB-246 and SB-247) and was only observed in the highly conductive sand and gravel seams. Refer to Appendix A for a photograph log of soil cores.

The lack of propant and sodium permanganate observed in the silt and clay indicates the pneumatic enhancement was unsuccessful in creating fractures within the tightly packed silt and clay. The pneumatic fracturing equipment required a minimum 3.5-ft injection interval and this entire vertical interval became pressurized. Based on the distribution of the treatment chemical into only the sand and gravel seams, and based on discussions with the pneumatic injection contractor, because the sand and gravel seams were present at a frequency greater than the thickness of the injection interval, the 3.5-ft interval was not made up to entirely silt and clay. This caused the pressure and treatment chemical to short-circuit into the sand and gravel seams during each injection interval. Furthermore, the pneumatic injection equipment is capable of reaching pressures up to 600 psi; however, pressures up to only approximately 200 psi were achieved. This indicates the injection fluids short-circuited before higher pressures could be achieved. The sand and gravel seams served as a preferential pathway for the propant mixture and treatment chemical, which prevented pressures from building up to levels which would fracture the silt and clay material. Based on investigative work completed at the Site, the sand and gravel seams are frequent but are inconsistent and vary in thickness and elevations; as such, the 3.5-ft pneumatic injection interval was too large to isolate intervals with only silt and clay which prevented sufficient pressures from building up to fracture the silt and clay. As such, the objective of this Work Plan Addendum is to evaluate a hydraulic injection approach that focuses the injection interval into the silt and clay and to reduce the potential for all material to be placed into sand and gravel seams. This approach will require more frequent injection points (i.e., tighter grid spacing) but utilizes an injection probe with a narrower vertical interval (a few inches as opposed to 3.5-ft). In addition, an objective of this pilot test is to determine the optimal grid spacing and depths for full-scale injection remedy, if successful.

Proposed Supplemental Pilot Test

In attempts to target smaller intervals for injection and isolate the silt and clay layers, the supplemental pilot test will evaluate hydraulic injection methods. The proposed location for the supplemental pilot test is farther north of the source area and on the 55 Hofstra Road parcel as shown on Figure 2. This location was selected to eliminate structural concerns and limit disruption to Site operations. It should be noted that previously completed soil borings in the proposed location

(SB-202 and SB-214) have similar geology to the source area soils (i.e., clayey silt with seams of sand and gravel). The Supplemental Pilot Test methods are detailed below:

- A Geoprobe will be used to advance a soil boring to a depth of approximately 15-ft bgs and macrocores will be used to retrieve the soils. A LaBella representative will observe and log the soils. This step will be completed to document depths of the various soil types to understand the locations of sand/ gravel seams versus silt/ clay to target injection intervals.
- A Geoprobe will be used to advance a Geoprobe Systems® Pressure Activated Injection Probe to a depth of approximately 15-ft bgs. The injection probe has an internal valve that only opens when pressure is applied to prevent back-flow of injection materials through the inside of the tooling and also keeps soil out of the tooling during advancement. Refer to Appendix B for a specification sheet for the equipment. The diameter of the borehole will be the same diameter as the injection probe which will limit the void space around the tooling to prevent daylighting around the outside of the tooling and short circuiting into highly conductive zones. In addition, the narrow valve opening (1.5-inches) will target narrower intervals during injection.
- Dyed water will be injected into the formation along with a biodegradable dye, Bright Dyes® (refer to Appendix C for safety data sheet). It is assumed up to 50 gallons of water will be injected per point. The pressure capacity is up to 1,300 psi, but the expected range to be utilized is approximately 150-350 psi. This pilot test will evaluate the pressures needed to distribute the treatment chemical into the formation. Pressures utilized will be recorded.
- The injection probe will be raised in approximate 0.5 to 1-ft intervals and dyed water will be injected at each interval. Sand may also be added to the dyed water to facilitate better distribution. This process will be repeated from 15-ft bgs to approximately 8-ft bgs.
- In addition to the "bottom-up" injection approach in which water is injected from 15-ft to 8-ft, a "top-down" injection will be completed in which the first injection interval is at 8-ft bgs and the last interval is at 15-ft bgs. It is anticipated between 3 and 5 injection points will be completed at approximate 5-ft horizontal spacing to evaluate the appropriate spacing.
- Soil borings will be advanced at various times during the injection program to visually assess the distribution of the dyed water. It is anticipated between 5 and 8 soil borings will be completed. Refer to Figure 2 for potential soil boring locations. Locations of soil borings are subject to change based on the findings in the field. Horizontal spacing of injection points may vary based on findings of the soil borings.
- All injection points and soil borings will be filled with grout following completion.
- Due to the distance from structures (approximately 200-feet from both the 1500 Jefferson Road building and 55 Hofstra Road building and 100-feet from the sanitary sewer) structural monitoring will not be completed. The ground surface will be observed for daylighting throughout the injection program.
- All soil and groundwater generated as part of this pilot test will be containerized on-Site and characterized for disposal in accordance with applicable regulations.

All work will be completed in accordance with the Site-specific NYSDEC-approved Quality Control Program Plan (QCPP), Health and Safety Plan, and Community Air Monitoring Plan included in the Remedial Investigation Work Plan dated February 2012 and NYSDEC conditional approval comments to the QCPP in the Pilot Test Work Plan approval letter dated April 27, 2017. An Inventory of Injection Wells form was submitted to the United States Environmental Protection Agency (USEPA) as part of the initial pilot test for injection of potassium or sodium permanganate in up to 30 wells. The request was approved by the USEPA in a letter dated September 20, 2016. Per the approval letter, the USEPA will be notified regarding the change in injectate composition for this supplemental pilot test.

The results of both pilot tests will be used to evaluate remedial alternatives for the Site in a Remedial Alternatives Analysis Report.

Certification

I Daniel P. Noll certify that I am currently a NYS registered professional engineer and that this Pilot Test Work Plan Addendum was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

If you have any questions, or require additional information, please do not hesitate to contact me at (585) 295-6611. We would like to perform the pilot test in the next 2-3 weeks, so we ask for your review and approval as quickly as possible.

Respectfully submitted,

LABELLA ASSOCIATES, D.P.C.

Daniel P. Noll, PE
Project Manager

ATTACHMENTS:
Figures
Appendix A: Photograph Log
Appendix B: Geoprobe Systems® Equipment Information
Appendix C: Bright Dyes® Safety Data Sheet

I:\ELDRE CORPORATION\212721.01 - BCP REMOVAL PHASE\REPORTS\PILOT TEST\PILOT TEST WP ADDENDUM\C828182 ELDRE CORPORATION PILOT TEST WP ADDENDUM.DOC

FIGURES

LaBella
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ELDRE CORPORATION
BCP SITE C828182

1500 JEFFERSON ROAD
AND 55 HOFSTRA ROAD
HENRIETTA, NY

INITIAL PILOT TEST

N
W E
S

0 5 10 Feet

1 inch = 10 feet

Intended to print as 11" x 17".

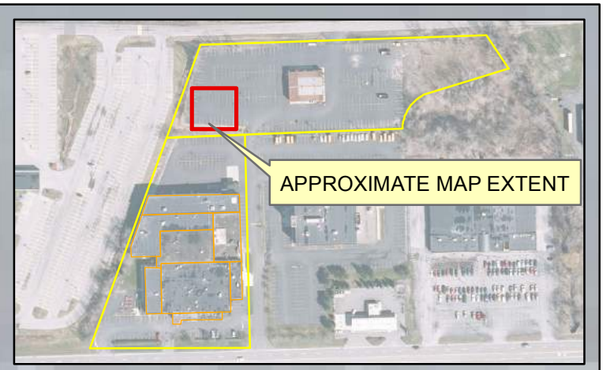
212721

FIGURE 1

Path: I:\Eldre Corporation\212721.01 - BCP Removal Phase\Drawings\Pilot Test WP Addendum\Figure 1.mxd

Legend

- Proposed Post-Supplemental Pilot Test Soil Borings
- Proposed Supplemental Pilot Test Injections
- BCP Site Parcels
- Building



Notes:

1. Parcel boundaries are approximate and obtained from Monroe County Real Property data.
2. Locations are approximate and subject to change.

LaBella
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ELDRE CORPORATION
BCP SITE C828182

1500 JEFFERSON ROAD
AND 55 HOFSTRA ROAD
HENRIETTA, NY

PROPOSED SUPPLEMENTAL
PILOT TEST

N
W E
S

0 5 10 Feet

1 inch = 8 feet

Intended to print as 11" x 17".

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FIGURE 2

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APPENDIX A

Photograph Log


SB-242
NEW YORK
18


SB-243
SB243


SB-244
SB244
STANLEY
PowerLock
30'


SB-245
245
SB245
POWERLOCK
30


SB-246
SB246
SB246
18"
STANLEY
PowerLock
30'


SB-247
SB247
0'
SB247


SB-248
SB2


SB-249
SB249
0'
SB249
18'

APPENDIX B

Geoprobe Systems® Equipment Information

Geoprobe Systems®
ENVIRONMENTAL • GEOTECHNICAL • GEOTHERMAL • EXPLORATION

E-Specs

Geoprobe® GP350 Grout System

The GP350 Grout/Injection Machine offers the same pumping and injection features as the GP300 grout machine in a smaller, very mobile package. The machine was designed for the injection of remediation materials or for bottom-up grouting through small diameter probe holes. The GP350 is also capable of delivering standard ASTM grout mixes, and, based on the power source, provides operating pressures up to 1,300 psi with a maximum flow rate of 5 gpm. The machine operates using auxiliary hydraulics so is adaptable for use with multiple Geoprobe® machines.

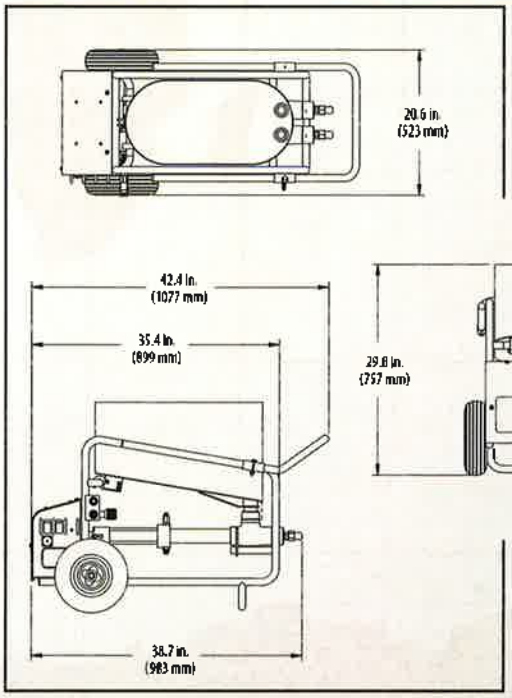
- Small, light-weight package
- Designed for Injection of Remediation Materials
- Grout Probe Holes from the Bottom Up
- High Pressure enables Grouting by Small Tremie Tubes
- Easy to Disassemble for Cleanup
- Dual Reciprocating-type Piston Pumps
- Few Replaceable (wear) Parts
- Operates on Auxiliary Hydraulics
- Use with Multiple Geoprobe® Units
- Speed Control on Injection Machine
- Optional Viton seals for pumping harsh Remediation Materials

GP350 Specifications

Weight (without grout)	145 lb	66 kg
Height	29.8 in	757 mm
Width	20.6 in	523 mm
Length	38.7 in	983 mm
Hopper Capacity	12.75 gal	48.3 L
Hopper Capacity (3 in. freeboard)	9.5 gal	36 L
Pump Displacement	13 cu. in.	213 mL
Pump Pressure Rating*	1,300 psi	89 bar
Pump Flow Rate*	0-5 gpm	0-18.9 Lp

*Dependant on Hydraulic Power Source.

Weighing less than 150 lb., the GP350 can be loaded by two people and can be easily maneuvered around a project site by one field person.



1835 Wall Street • Salina, KS 67401 | 1-800-436-7762 | geoprobe.com

Geoprobe Systems®
ENVIRONMENTAL • GEOTECHNICAL • GEOTHERMAL • EXPLORATION

Product Sheet

Pressure Activated Injection Probe

The patented Pressure-Activated Injection Probe allows for either top-down or bottom-up injection methods. Its four (4) port, 360 degree injection design, also ensures accurate placement of remediation materials.

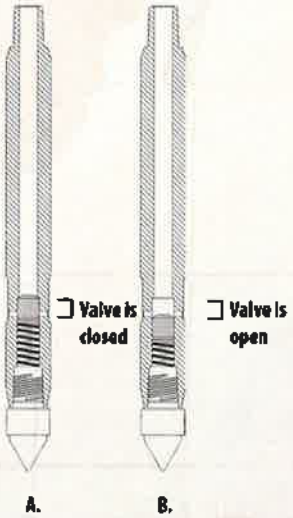
Pressure-Activated Injection Probe

manufactured under U.S. Patent 6604579

- ***Patent Protected Check Valve Injection System***
  - -Keeps soil out of the ID of the tool string during advancement and retraction
  - -Helps prevent back-flow of injection materials through the ID of the tool string
  - -Valve opens at approximately 100 psi for injection
- ***Reliable Cost-Effective Injection***
  - -No Expendable points to leave in the ground
  - -Easy cleaning and simple replacement parts
  - -Works with many injection materials
  - -Can be uses with multiple pump configurations (Geoprobe® GP300, GP350, GP800, & GS2250)

Geoprobe® Injection Probe in action. Four-Port, 360 degree horizontal injection for top-down or bottom-up injection

Pressure-Activated Injection Probe: How it Works



A. Internal valve is closed when positive pressure is not present. This prevents soil from entering tool string during advancement. It also prevents injection material from flowing back through the injection tool and up the tool string ID.

B. Internal valve is open when positive pressure is present. This allows material to flow out into the formation.

Injection Probe Assemblies & Parts:

1.25 in. Injection Probe

-(18735) Pressure Activated Inj Probe 1.25 In.

1.25 in. Replacement Parts

-(AT1245) 1.25 in. Solid Drive Point
-(18892) Injection Probe Replacement Spring
-(18434) Injection Probe Check Valve Kit
-(AT1250R) O-Ring for 1.25 in. point

1.5 in. Injection Probe

-(21479) Pressure Activated Injection Probe

1.5 in. Replacement Parts

-(21519) 1.5 in. Solid Drive Point
-(18892) Injection Probe Replacement Spring
-(18434) Injection Probe Check Valve Kit
-(15389) O-Ring for 1.5 in. point

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APPENDIX C

Bright Dyes® Safety Data Sheet

Kingscote CHEMICALS

Safety Data Sheet

Issue Date: 09-Nov-2013 **Revision Date:** 06-Feb-2017 **Version Number:** 2.1

1. Identification

Product Identifiers
Product Name: Bright Dyes® FLT Yellow/Green Tablet

Product Number: 101101

Recommended Use & Restrictions on Use
Water tracing & leak detection dye

Manufacturer/Supplier
Kingscote Chemicals, Inc.
3334 South Tech Blvd.
Miamisburg, OH 45342
U.S.A.

Emergency Telephone Number
Company Telephone Number: (937) 886-9100
Emergency Telephone (24 hr): INFOTRAC (800) 535-5053 (North America)
+1-352-323-3500 (International)

2. Hazards Identification

Classification
This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. Composition/Information on Ingredients

This product is not hazardous according to OSHA 29 CFR 1910.1200. Components not listed are not hazardous or are below reportable limits.

4. First-Aid Measures

First-Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash thoroughly with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Inhalation	Remove to fresh air. If breathing is difficult, administer oxygen; seek medical attention immediately.

Ingestion Rinse mouth. DO NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention if large quantities were ingested or if nausea occurs.

Most Important Symptoms and Effects

Symptoms Will cause staining of the skin on contact. May cause eye irritation. Inhalation of dust may cause respiratory irritation. Ingestion may cause urine to be a yellow/green color until the dye has been washed through the system.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to Physician Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media
Water spray (fog). Carbon dioxide (CO2). Dry chemical.

Unsuitable Extinguishing Media
Not determined

Specific Hazards Arising from the Chemical
Remote possibility of dust explosion. Burning may produce oxides of carbon and nitrogen (NOx).

Protective Equipment and Precautions for Firefighters
Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Use personal protective equipment as recommended in Section 8.

Environmental Precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12 and Section 13.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Sweep up and collect into suitable containers for disposal. Flush area with water.

7. Handling and Storage

Precautions for Safe Handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practices. Use personal protection recommended in Section 8. Avoid contact with skin, eyes, or clothing. Avoid breathing dusts. Contaminated clothing should not be allowed out of the workplace.

Conditions for Safe Storage, Including Incompatibilities

Storage Conditions	Keep container tightly closed and store in a cool, dry, and well-ventilated area. Store away from heat, sparks, open flame or any other ignition source.
Incompatible Materials	Bromine trifluoride. Lithium. Strong acids, bases, and oxidizing agents.

8. Exposure Controls / Personal Protection

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Controls

Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

Individual Protection Measures, Such as Personal Protective Equipment:

Eye/Face Protection	Avoid contact with eyes.
Skin & Body Protection	Rubber gloves. Suitable protective clothing.
Respiratory Protection	Use NIOSH-approved dust mask if dusty conditions exist.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practices.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State	Solid	**Odor**	None apparent
Appearance	Orange tablet	**Odor Threshold**	Not determined
Color	Orange		

Property	**Values**
pH	Not applicable
Melting/Freezing Point	Not applicable
Boiling Point/Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not flammable
Upper Flammability Limits	Not applicable
Lower Flammability Limits	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	Not applicable
Specific Gravity	Not applicable
Solubility	Highly soluble in water with small amounts of insoluble residue
Partition Coefficient	Not determined
Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Viscosity	Not determined

10. Stability and Reactivity

Reactivity
Not reactive under normal conditions.

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
Keep separated from incompatible substances. Keep out of reach of children.

Incompatible Materials
Bromine trifluoride. Lithium. Strong acids, bases, and oxidizing agents.

Hazardous Decomposition Products
Oxides of carbon and nitrogen (NOx).

11: Toxicological Information

Information on Likely Routes of Exposure

Inhalation	Avoid inhalation of dust.
Ingestion	Do not ingest.
Skin Contact	May cause an allergic skin reaction.
Eye Contact	Avoid contact with eyes.

Delayed, Immediate, and Chronic Effects from Short- and Long-Term Exposure
May cause an allergic skin reaction.

Numerical Measures of Toxicity
Not determined

Symptoms Associated with Exposure
See Section 4 of this SDS for symptoms.

Carcinogenicity

NTP	None
IARC	None
OSHA	None

12. Ecological Information

Ecotoxicity
This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information
Not available

Persistence/Degradability
This product is biodegradable.

Bioaccumulation
Not determined

Mobility
Not determined

Other Adverse Effects
Not determined

13. Disposal Considerations

Waste Disposal Methods
Dispose of in accordance with federal, state, and local regulations.

Contaminated Packaging
Do not re-use empty containers. Dispose of containers in accordance with federal, state, and local regulations.

14. Transport Information

Note
See current shipping paper for most up-to-date shipping information, including exemptions and special circumstances.

DOT	Not regulated
IATA	Not regulated
OMDG	Not regulated

15: Regulatory Information

International Inventories
Not determined

U.S. Federal Regulations

CERCLA	This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund

Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CWA (Clean Water Act) This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

U.S. State Regulations

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know This product does not contain any substances regulated under applicable state right-to-know regulations.

16: Other Information

HMIS

Health Hazards	Flammability	Instability	Special Hazards
1	0	0	Not determined

NFPA

Health Hazards	Flammability	Physical Hazards	Personal Protection
1	0	0	B

Issue Date 09-Nov-2013

Revision Date 06-Feb-2017

Revision Note Content Review

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet