<table>
<thead>
<tr>
<th>Product Name</th>
<th>CAS Number</th>
<th>Manufacturer</th>
<th>Version Date</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>'LectraSol Safety Solvent</td>
<td></td>
<td>Tri-Chem</td>
<td></td>
<td>4</td>
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<tr>
<td>1132-6 - STABIL Fuel Stabilizer</td>
<td></td>
<td>GOLD EAGLE COMPANY</td>
<td>07/17/2003</td>
<td>6</td>
</tr>
<tr>
<td>1515-01-001 76203 CUTTING OIL 11.75oz (333g)</td>
<td></td>
<td>Osborn International</td>
<td>08/27/2013</td>
<td>13</td>
</tr>
<tr>
<td>97673 TEF-GEL</td>
<td></td>
<td>Lawson Products, Inc.</td>
<td>02/11/2014</td>
<td>17</td>
</tr>
<tr>
<td>ACCUCOLOR Sanded Grout</td>
<td></td>
<td>H.B. Fuller Construction Products Inc.</td>
<td>08/28/2012</td>
<td>25</td>
</tr>
<tr>
<td>AquaScent Apple Pear</td>
<td></td>
<td>AquaScent</td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Battery Cleaner and Acid Detector</td>
<td></td>
<td>NOCO COMPANY</td>
<td>03/15/2011</td>
<td>35</td>
</tr>
<tr>
<td>Clean Coil</td>
<td></td>
<td>SHARE CORPORATION</td>
<td>02/23/2012</td>
<td>39</td>
</tr>
<tr>
<td>DIESEL FUEL SUPPLEMENT +CETANE BOOST</td>
<td></td>
<td>Power Service Products, Inc.</td>
<td>05/30/2015</td>
<td>41</td>
</tr>
<tr>
<td>FENCE POST MIX, FIBER-REINFORCED CONCRETE MIX, CRACK RESISTANT CONCRETE MIX, QUIKRETE 5000</td>
<td></td>
<td>The QUIKRETE Companies</td>
<td>08/01/2013</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>54</td>
</tr>
<tr>
<td>FOUNDATION COATING; SAND (TOPPING) MIX; SAND MIX – TYPE II; ALL STAR SAND MIX; HANDICRETE SAND MIX; RITEMIX SAND MIX; DECK MUD; POWERLITE; REVETMENT - RIP RAP BURLAP; 3:1 SAND/CEMENT - BURLAP; VINYL CONCRETE PATCHER; BONDED TOPPING MIX</td>
<td></td>
<td>The QUIKRETE Companies</td>
<td>08/29/2011</td>
<td>60</td>
</tr>
<tr>
<td>High Performance Cold Patch</td>
<td></td>
<td>PLM</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>Hy-Gard Transmission &amp; Hydraulic O</td>
<td></td>
<td>John Deere</td>
<td>08/15/1999</td>
<td>68</td>
</tr>
<tr>
<td>John Deere Cool Gard II (Concentrate) (TY26573, TY26574)</td>
<td></td>
<td>Northland Products Company</td>
<td>02/11/2013</td>
<td>70</td>
</tr>
<tr>
<td>John Deere Plus-50 II SAE 15W-40</td>
<td></td>
<td>Northland Products Company</td>
<td>04/02/2012</td>
<td>76</td>
</tr>
<tr>
<td>Klean Strip Odorless Mineral Spirits and Odorless Painter’s Solvent</td>
<td>64742-47-8</td>
<td>W. M. Barr</td>
<td>04/14/2015</td>
<td>81</td>
</tr>
<tr>
<td>Kwikee Penetrating Oil</td>
<td></td>
<td>Lawson Products, Inc.</td>
<td>12/16/2013</td>
<td>87</td>
</tr>
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</table>

*Page 2 of 190*
<table>
<thead>
<tr>
<th>Product Name</th>
<th>CAS Number</th>
<th>Manufacturer</th>
<th>Version Date</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loggers Choice Bar and Chain Oil</td>
<td></td>
<td>Pinnacle Oil, Inc.</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>MiracleGro Tree &amp; Shrub</td>
<td></td>
<td>Scott's Miracle Gro</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>PEAK GLOBAL LIFETIME CONCENTRATE ANTIFREEZE &amp; COOLANT</td>
<td></td>
<td>Old World Industries, LLC</td>
<td>03/10/2015</td>
<td>107</td>
</tr>
<tr>
<td>PEAK Long Life Antifreeze</td>
<td></td>
<td>Old World Industries, Inc.</td>
<td>07/20/2009</td>
<td>115</td>
</tr>
<tr>
<td>Pennzoil Premium Grease Wheel Bearing 707L Red</td>
<td></td>
<td>Shell Canada Products</td>
<td>12/10/2014</td>
<td>127</td>
</tr>
<tr>
<td>Permaflex Mixing Concentrate Series 500 NP 452 pearl white</td>
<td></td>
<td>SPIES HECKER, Inc.</td>
<td>05/13/2009</td>
<td>134</td>
</tr>
<tr>
<td>Rust-Oleium</td>
<td></td>
<td>Appliance Epoxy</td>
<td>143</td>
<td></td>
</tr>
<tr>
<td>Shell SPIRAX GEAR OIL LS SAE 80W-90</td>
<td></td>
<td>SOPUS Products</td>
<td>07/03/2008</td>
<td>150</td>
</tr>
<tr>
<td>Slime SDS Tire Sealant</td>
<td></td>
<td>Accessories Marketing Inc</td>
<td>01/22/2014</td>
<td>157</td>
</tr>
<tr>
<td>SLUFF</td>
<td></td>
<td>Drummond, A Lawson Brand</td>
<td>03/13/2012</td>
<td>165</td>
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<tr>
<td>STIHL 2-CYCLE HP ENGINE OIL</td>
<td></td>
<td>OMNI Specialty Packaging</td>
<td>11/18/2013</td>
<td>168</td>
</tr>
<tr>
<td>Turf Gard 10W30</td>
<td></td>
<td>John Deere</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>United 101 Moisture Barrier and Electrical Lubricant</td>
<td></td>
<td>United Laboratories Inc.</td>
<td>03/17/2003</td>
<td>182</td>
</tr>
<tr>
<td>Unleaded Gasoline</td>
<td></td>
<td>Gasoline</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td>Vinyl Cement Patch</td>
<td></td>
<td>Akona Manufacturing, LLC.</td>
<td>11/01/2014</td>
<td>185</td>
</tr>
</tbody>
</table>
### SECTION I

**MANUFACTURER’S NAME**
TRI-CHEM CORPORATION

**ADDRESS (Street, City, State and Zip Code)**
P. O. BOX 71550, MADISON HGTS., MI  48071-0550

**CHEMICAL NAME AND SYNONYMS**
N/A

**TRADE NAME AND SYNONYMS**
LECTRA SOL TC (AEROSOL)

**CHEMICAL FAMILY**
N/A

**FORMULA**
N/A

### SECTION II – HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES</th>
<th>%</th>
<th>TLV (UNITS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichloroethylene (CAS# 79-01-6)</td>
<td>&gt;1</td>
<td>50 ppm</td>
</tr>
<tr>
<td>Carbon Dioxide (CAS# 124-38-9)</td>
<td>&gt;1</td>
<td>5000 ppm</td>
</tr>
</tbody>
</table>

This product contains 14 ounces of Trichloroethylene per can of product. Trichloroethylene is a regulated chemical under the Emergency Planning and Right-To-Know Act. You are required to file E.P.A. SARA reports once the threshold of 10,000 pounds of Trichloroethylene has been purchased for one location in each calendar year.

All components of this product are listed on the E.P.A./TSCA inventory of chemical substances.

### SECTION III – PHYSICAL DATA

<table>
<thead>
<tr>
<th>BOILING POINT (°F)</th>
<th>189°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAPOR PRESSURE (in can PSIG)</td>
<td>95-105</td>
</tr>
<tr>
<td>VAPOR DENSITY (AIR = 1)</td>
<td>4</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>insoluble</td>
</tr>
</tbody>
</table>

**APPEARANCE AND ODOR**
Clear water white liquid with an etherial odor.

### SECTION IV – FIRE AND EXPLOSION DATA

<table>
<thead>
<tr>
<th>FLAMMABLE LIMITS</th>
<th>Lel</th>
<th>Uel</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>8.0</td>
<td>52.0</td>
</tr>
</tbody>
</table>

**EXTINGUISHING MEDIA**
Use extinguishing media suitable for fighting surrounding fire.

**SPECIAL FIRE FIGHTING PROCEDURES**
Fire fighters should wear full protective clothing including self-contained respiratory equipment operated in a positive mode. Use water spray to keep containers cool.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**
Cans may vent, rupture, or burst when exposed to temperatures in excess of 120°F.
### SECTION V – HEALTH HAZARD DATA

<table>
<thead>
<tr>
<th>THRESHOLD LIMIT VALUE</th>
<th>PRIMARY ROUTES OF ENTRY</th>
<th>Inhalation</th>
<th>Skin Contact</th>
<th>Other (Specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 ppm</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

#### EFFECTS OF OVEREXPOSURE
Eyes- liquid and vapors may cause irritation. Skin- dry skin, irritation. Inhalation- narcosis, headache, dizziness, carboxyhemoglobinemia. Alcohol consumed before exposure increases effects.

#### EMERGENCY AND FIRST AID PROCEDURE
Eyes- flush with copious amounts of water lifting lids and removing contact lenses to ensure complete irrigation- get medical attention. Skin- flush with water and then wash with soap and water, launder contaminated clothing before reuse- get medical attention if irritation persists. Inhalation- remove to fresh air and assist breathing as necessary- get medical attention. Ingestion- DO NOT INDUCE VOMITING- aspiration of material into lungs may cause chemical pneumonitis which can be fatal- get medical attention. Use gastric lavage. Never use adrenalin.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Persons with pre-existing heart or respiratory disorders

<table>
<thead>
<tr>
<th>Carcinogen:</th>
<th>NTP</th>
<th>IARC</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION VI – REACTIVITY DATA

<table>
<thead>
<tr>
<th>STABILITY</th>
<th>STABLE</th>
<th>UNSTABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

#### INCOMPATABILITY (Conditions to avoid)
Strong Oxidizers and Alkalis, reactive metals

#### HAZARDOUS DECOMPOSITION PRODUCTS
Oxides of Carbon, Hydrogen Chloride, Phosgene

#### HAZARDOUS POLYMERIZATION

<table>
<thead>
<tr>
<th>MAY OCCUR</th>
<th>WILL NOT OCCUR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

#### CONDITIONS TO AVOID
Temperatures in excess of 120°F.

### SECTION VII – SPILL OR LEAK PROCEDURES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**
Ventilate spill area. Dike area to contain spill and use absorbent material to soak up spill. Shovel or sweep into for container for disposal.

**WASTE DISPOSAL METHOD**
Aerosol cans when emptied and depressurized through normal use pose no disposal hazard and should be recycled. Absorbent materials should be disposed of in accordance with all Local, State, and Federal regulations.

### SECTION VIII – SPECIAL PROTECTION INFORMATION

#### SPECIAL RESPIRATORY PROTECTION (Specify type)
Use NIOSH approved respirator in areas where TLV has been exceeded.

<table>
<thead>
<tr>
<th>VENTILATION</th>
<th>LOCAL EXHAUST</th>
<th>MECHANICAL (General)</th>
<th>SPECIAL</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To control TLV</td>
<td>To control TLV</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### PROTECTIVE GLOVES
Impervious

#### EYE PROTECTION
Chemical Goggles

**OTHER PROTECTIVE EQUIPMENT**
Eyewash and safety shower.

### SECTION IX – SPECIAL PRECAUTIONS

#### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Avoid contact- wear protective clothing and wash thoroughly after using. Avoid inhalation of vapors- do not use in confined, poorly ventilated, or other areas where TLV may be exceeded without proper respiratory protection. Do not take internally.

#### OTHER PRECAUTIONS
Do not store in areas where temperatures may exceed 120 degrees F. Keep Out of Reach of Children.

### HMIS SYMBOL

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**SEVERE** 4  **SERIOUS** 3  **MODERATE** 2  **SLIGHT** 1  **MINIMAL** 0

**NAME**  John Telles  **SIGNATURE**  

**TITLE**  CHEMIST  **PREPARATION DATE**  June 19, 2012  **PHONE NUMBER**  CHEMTREC 800-424
**** SECTION 1 - CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION ****

Product Name: 1132-6 - STABIL Fuel Stabilizer

Part Number:

Product CAS: (None)

Product Code: N/A

Synonyms: 1132-6 - STABIL Fuel Stabilizer

MANUFACTURER IDENTIFICATION
Name: Gold Eagle Company
Address: 4400 S. Kildare Blvd.
City: Chicago State: IL Zip: 60632-4372

For information call: 773-376-4400

Emergency Number: N/A

Emergency Agency: INFOTRAC

Agency Number: 1-800-535-5053

MSDS Effective Date: 7/17/2003

MSDS Supersedes Date: 3/1/2013

Miscellaneous:
Product CAS: Mixture

Brief Description: Fuel stabilizer for gasoline powered engines.

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**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS</th>
<th>MIN</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive Mixture</td>
<td>(none)</td>
<td>0</td>
<td>5</td>
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<tr>
<td>Petroleum Distillate</td>
<td>64742-53-6</td>
<td>0</td>
<td>95</td>
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</table>
**M**iscellaneous:

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<tr>
<th>CHEMICAL NAME</th>
<th>LIMIT VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive Mixture (CAS#:Mixture)</td>
<td>N/A</td>
</tr>
<tr>
<td>Petroleum Distillate</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**SECTION 3 - HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW:**

**NFPA:**
- **Health:** 1
- **Fire:** 3
- **Reactivity:** 0
- **Specific Hazard:** None

**HMIS:**
- **Health:** 1
- **Flammability:** 3
- **Reactivity:** 0
- **PPE:** B

**Miscellaneous:**
This product does not contain any components above de minimus concentrations that are considered carcinogenic by OSHA, IARC or NTP.

**POTENTIAL HEALTH EFFECTS**

**Target Organs/Primary Route(s) of Entry:**

**Eye:**
Mild irritant.

**Skin:**
Mild irritant

**Ingestion:**
Toxicity is relatively low, there is a risk of aspiration of product into the lungs. On ingestion of large quantities, slight GI discomfort, diarrhea, and headache may occur. Small doses may produce irritation and diarrhea.

**Inhalation:**
Low risk of inhalation. Mists above TLV may cause chemical pneumonitis.

**Miscellaneous:**

**SECTION 4 - FIRST AID MEASURES**

**Eye:**
If the product contacts the eyes, immediately wash the eyes with large quantities of room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Get medical attention immediately.

**Skin:**
If the product contacts the skin, promptly wash the contaminated skin with soap and water for at least 15 minutes. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap and water.

**Ingestion:**
Do not induce vomiting, product contains petroleum distillate. Get medical attention immediately.
attention immediately.

**Inhalation:**
Move the exposed person to fresh air at once and call emergency medical care. If breathing has stopped, give artificial respiration. If breathing is difficult, give humidified oxygen.

**Notes to Physician:**
No data available.

---

**** SECTION 5 - FIRE FIGHTING MEASURES ****

**Flash Point:** 212 F. (101.6 C.) TOC

**AutoIgnition Temperature:** N/A

**Flammable Limits**
- **Lower Limit:** Explosive Limit (LEL): 0.8
- **Upper Limit:** Explosive Limit (UEL): 7.0

**Extinguishing Media:**
Use carbon dioxide, dry chemical, foam and/or water fog as extinguishing media.

**Unusual Fire and Explosion Hazards:**
Water may cause frothing

**Special Fire Fighting Procedures:**
Wear NIOSH approved SCBA respirator in the positive pressure mode and chemical protective clothing.

**General Information:**
Flammable Limits: 0.8 to 7.0

---

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

**Small Spill:** Remove sources of heat or ignition, provide adequate ventilation, contain leak using absorbent, inert, non-combustible material.

**Large Spill:** Contain spill, transfer to secure containers. In the event of an uncontrolled material release, the user should determine if release is reportable under applicable laws and regulations.

---

**** SECTION 7 - HANDLING AND STORAGE ****

**Handling:**
See other sections of MSDS.
Storage:
See other sections of MSDS.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

GENERAL HYGIENE CONSIDERATIONS:
Use normal hygiene practices.

OTHER PRECAUTIONS:
Product is combustible, handle accordingly.

ENGINEERING CONTROLS:
Local Exhaust: Provide local ventilation to maintain exposure levels below recommended exposure limits.

Mechanical (General): In confined spaces, mechanical ventilation may be required.

PERSONAL PROTECTIVE EQUIPMENT
Eyes/face: Use splash proof chemical, safety goggles or appropriate full-face respirator.

Skin: Use oil impervious gloves as required.

Respirators: Normally none is required. If high vapor or mist concentration are expected, use appropriate NIOSH approved respirator for organic vapors and mists. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Other Protective Clothing/Equipment: If there is a possibility of exposure of an individual's body to the product, wear body-covering work clothes to avoid prolonged or repeated exposure.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor: Red liquid, solvent odor

pH: N/A

Vapor Pressure: (MM HG): LT 3.0

Vapor Density(Air=1): 4.8

Evaporation Rate: N/A

Viscosity: N/A

Boiling Point: 180 F.

Freezing/Melting Point: N/A
Decomposition Temperature: N/A

Solubility in Water: Negligible

Specific Gravity: 0.9

Molecular Formula: N/A

Molecular Weight: N/A

VOC Coating (minus water): 0 Lbs/Gallon

Coating Density: 0 Lbs/Gallon

Solvent Density: 0 Lbs/Gallon

Percent Solvent (volume): 60

Percent Solids (volume): 0

Percent Water (volume): 0

Percent Volatile by Weight: 0

Miscellaneous:
% Volatile/Volume: 100.0

Percent Solvent (Volume): N/A

Percent Solids (Volume): N/A

Percent Water (Volume): N/A

Product is combustible, keep away from sources of ignition, oxidizing materials and acid. Store in an area equipped with automatic sprinklers or fire extinguishing system. Empty containers contain product residues, assume emptied containers to have same hazards as full containers.

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**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable: Yes

Conditions to Avoid:
Store below 150 F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

Incompatibilities with Other Materials:
Strong oxidants.

Hazardous Decomposition Products:
Excessive heating and/or incomplete combustion will produce carbon monoxide.

Hazardous Polymerization:
Hazardous polymerization may occur: No
**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

No data available.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of product in accordance with local, state, and federal regulations. Before attempting clean up, refer to other sections of MSDS for hazard warning information.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
Shipping Information (CFR 49 and IMDG):

Proper Shipping Name: Gasoline Additive, N.O.I.
DOT Hazard Class: None required (Flashpoint GT 200 F.)
DOT UN Number: None required.
IMDG Shipping Name: Non-Hazardous Gasoline Additive Flashpoint GT 200 F.

Label Information:
No data available.

**** SECTION 15 - REGULATORY INFORMATION ****

SARA Title III:
Section 302: None
Section 304: None
Section 311: None
Section 313: None

CERCLA:
Section 311(b)(4): Requires discharges of crude oil and petroleum products in any kind or form to waters must immediately be reported to the National Response Center at (800) 424-8802.
Disclaimer: Information presented herein is believed to be factual, as it has been derived from the works and opinions of persons believed to be qualified experts. However, nothing contained in this information is to be taken as warranty or representation for which the Gold Eagle Co. bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Prepared by: Mike Profetto
Section 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER ....................................... MANUFACTURED FOR:
OSBORN INTERNATIONAL
1100 RESOURCE DRIVE, SUITE 1
BROOKLYN HEIGHTS, OH 44131
USA
800-720-3358

PRODUCT NAME ....................................... 1515-01-001 76203 CUTTING OIL 11.75oz (333g)

CHEMICAL FAMILY ..................................... PETROLEUM.

MOLECULAR WEIGHT ................................... NOT APPLICABLE.

CHEMICAL FORMULA ................................... MIXTURE.

TRADE NAMES & SYNONYMS ......................... 1515-01-001 76203 CUTTING OIL 11.75oz (333g)

PRODUCT USES ....................................... CUTTING OIL.

FORMULA/LAB BOOK # ................................ 9700-00-018.

Section 02: COMPOSITION/INFORMATION INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Ingredients</th>
<th>%</th>
<th>Exposure Limit</th>
<th>C.A.S.#</th>
<th>LD/50, Route,Species</th>
<th>LC/50 Route,Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETROLEUM HYDROCARBON MIXTURE</td>
<td>60-100</td>
<td>5 mg/m3</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>ISOButANE</td>
<td>3-7</td>
<td>1000 ppm</td>
<td>75-28-5</td>
<td>NOT APPLICABLE</td>
<td>142,500 ppm (4h)</td>
</tr>
<tr>
<td>PROPANE</td>
<td>5-10</td>
<td>1000 ppm</td>
<td>74-98-6</td>
<td>&gt;5000 mg/kg</td>
<td>DERMAL-RABBITS</td>
</tr>
</tbody>
</table>

Section 03: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:
INGESTION.............................................. MAY CAUSE HEADACHE, NAUSEA, VOMITING AND WEAKNESS.

INHALATION............................................. INHALATION OF SOLVENTS MAY CAUSE IRRITATION. PROPELLANT IS A SIMPLE ASPHYXIANT.

EYE CONTACT.......................................... MAY CAUSE IRRITATION.

SKIN ABSORPTION................................. MAY BE ABSORBED BY THE SKIN.

SKIN CONTACT......................................... MAY CAUSE IRRITATION.

EFFECTS OF ACUTE EXPOSURE............... DIZZINESS, NAUSEA, IRRITATION TO SKIN & EYES.

EFFECTS OF CHRONIC EXPOSURE............. SOLVENTS MAY CAUSE DEFATTING DERMATITIS

EXPOSURE LIMIT OF MATERIAL.............. SEE SECTION 2.

Section 04: FIRST AID MEASURES

EMERGENCY FIRST AID PROCEDURE .... IN CASE OF EYE CONTACT, FLUSH IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION. FOR SKIN, WASH THOROUGHLY WITH SOAP AND WATER. IF AFFECTED BY INHALATION OF VAPOUR OR SPRAY MIST, REMOVE TO FRESH AIR. IF SWALLOWED; DO NOT INDUCE VOMITING; GET MEDICAL ATTENTION.

Section 05: FIRE FIGHTING MEASURES

AUTO IGNITION TEMPERATURE (°C)............ NOT AVAILABLE.

SPECIAL PROCEDURES.............................. WATER FROM FOGGING NOZZLES MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT BUILD-UP IF EXPOSED TO EXTREME TEMPERATURES. FULL PROTECTIVE EQUIPMENT INCLUDING SELF CONTAINED BREATHING APPARATUS SHOULD BE WORN IN A FIRE INVOLVING THIS MATERIAL.

IF YES, UNDER WHICH CONDITIONS?.... NO, SPRAY HAS NO FLAME EXTENSION.

EXTINGUISHING MEDIA.............................. WATER, CARBON DIOXIDE, DRY CHEMICAL, FOAM.

UPPER FLAMMABLE LIMIT...................... 9.5.

LOWER FLAMMABLE LIMIT...................... 2.6.

EXPLOSION DATA
**PRODUCT:** 1515-01-001 76203 CUTTING OIL 11.75oz (333g)

**Section 05: FIRE FIGHTING MEASURES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SENSITIVITY TO STATIC DISCHARGE</td>
<td>NOT APPLICABLE.</td>
</tr>
<tr>
<td>SENSITIVITY TO IMPACT</td>
<td>NOT APPLICABLE.</td>
</tr>
<tr>
<td>HAZARDOUS COMBUSTION PRODUCTS</td>
<td>HYDROCARBON FUMES AND SMOKE. CARBON MONOXIDE WHERE COMBUSTION IS INCOMPLETE.</td>
</tr>
<tr>
<td>AEROSOL FLAME PROJECTION</td>
<td>0-15cm.</td>
</tr>
<tr>
<td>FLASHBACK</td>
<td>NONE.</td>
</tr>
<tr>
<td>FLASH POINT (°C), TAG CLOSED-CUP</td>
<td>171.</td>
</tr>
</tbody>
</table>

**Section 06: ACCIDENTAL RELEASE MEASURES**

LEAK/SPILL

REMOVE ALL SOURCES OF IGNITION. USE AN INERT ABSORBENT MATERIAL, AND NON-SPARKING TOOLS. VENTILATE AREA. PREVENT FROM ENTERING A WATERCOURSE.

**Section 07: HANDLING AND STORAGE**

STORAGE NEEDS

KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAMES.

ENGINEERING CONTROLS

VENTILATION - LOCAL (MECHANICAL IF USED INDOORS ON A CONTINUOUS BASIS).

HANDLING PROCEDURES AND EQUIPMENT

STORE IN A COOL, WELL VENTILATED AREA NOT TO EXCEED 50 DEG C.

SYNERGISTIC MATERIALS

NONE KNOWN.

**Section 08: EXPOSURE CONTROLS/PERSONAL PROTECTION**

GLOVES/ TYPE

WEAR CHEMICAL RESISTANT GLOVES.

RESPIRATORY/TYPE

IF USED INDOORS ON A CONTINUOUS BASIS, USE OF A CARTRIDGE TYPE RESPIRATOR (NIOSH/MSHATC 23C OR EQUIVALENT) IS RECOMMENDED.

EYE/TYPE

SAFETY GLASSES.

FOOTWEAR/TYPE

NOT NORMALLY REQUIRED.

OTHER/TYPE

NOT REQUIRED.

**Section 09: PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICAL STATE</td>
<td>AEROSOL.</td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>DARK BROWN.</td>
</tr>
<tr>
<td>ODOR</td>
<td>HYDROCARBON.</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Oil mist 5mg/m3 (IF GENERATED).</td>
</tr>
<tr>
<td>VAPOUR PRESSURE (PSIG) - AEROSOL @ 20°C</td>
<td>50-65.</td>
</tr>
<tr>
<td>BOILING POINT (°C) (CONC)</td>
<td>&gt;271.</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>LESS THAN 1.</td>
</tr>
<tr>
<td>n-BUTYL ACETATE = 1</td>
<td>GREATER THAN 1.</td>
</tr>
<tr>
<td>VAPOUR DENSITY (AIR=1) (BY WEIGHT)</td>
<td>NEGLIGIBLE.</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY (LIQUID)</td>
<td>0.90-0.94.</td>
</tr>
<tr>
<td>COEFFICIENT OF WATER/OIL DIST.</td>
<td>NOT AVAILABLE.</td>
</tr>
<tr>
<td>FREEZING POINT: (°C)</td>
<td>NOT AVAILABLE.</td>
</tr>
<tr>
<td>AEROSOL PERCENT VOLATILE (BY WEIGHT)</td>
<td>12-13.</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY (AEROSOL)</td>
<td>0.82-0.86.</td>
</tr>
</tbody>
</table>

**Section 10: STABILITY AND REACTIVITY**

HAZARDOUS PRODUCTS OF DECOMPOSITION

HYDROCARBON FUMES AND SMOKE. CARBON MONOXIDE WHERE COMBUSTION IS INCOMPLETE.

CHEMICAL STABILITY:

YES. UNDER NORMAL CONDITIONS.

NO, WHICH CONDITIONS?

NOT APPLICABLE.

COMPATIBILITY WITH OTHER SUBSTANCES:

NO, WHICH ONES?

STRONG OXIDIZING AGENTS.

REACTION CONDITIONS?

NOT APPLICABLE.

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.
PRODUCT: 1515-01-001 76203 CUTTING OIL 11.75oz (333g)

Section 11: TOXICOLOGICAL INFORMATION

- **REPRODUCTIVE EFFECTS**: NO INFORMATION IS AVAILABLE AND NO ADVERSE REPRODUCTIVE EFFECTS ARE ANTICIPATED.

- **IRRITANCY OF MATERIAL**: SKIN/EYE IRRITANT.

- **SENSITIZING CAPABILITY OF MATERIAL**: UNKNOWN.

- **CARCINOGENICITY OF MATERIAL**: THE INGREDIENTS OF THIS PRODUCT ARE NOT LISTED AS CARCINOGENS BY NTP, (NATIONAL TOXICOLOGY PROGRAM), NOT REGULATED AS CARCINOGENS BY OSHA, (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION), AND HAVE NOT BEEN EVALUATED BY IARC,(INTERNATIONAL AGENCY FOR RESEARCH ON CANCER), NOR BY ACGIH (AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS).

- **TERATOGENICITY**: NO INFORMATION IS AVAILABLE AND NO ADVERSE TERATOGENIC EFFECTS ARE ANTICIPATED.

- **MUTAGENICITY**: NO INFORMATION IS AVAILABLE AND NO ADVERSE MUTAGENIC EFFECTS ARE ANTICIPATED.

Section 12: ECOLOGICAL CONSIDERATIONS

- **ENVIRONMENTAL**: NOT AVAILABLE.

Section 13: DISPOSAL CONSIDERATIONS

- **WASTE DISPOSAL**: DO NOT PUNCTURE OR INCINERATE CONTAINERS, EVEN WHEN EMPTY. DISPOSE OF IN ACCORDANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS.

Section 14: TRANSPORTATION INFORMATION

- **D.O.T. CLASSIFICATION**: CONSUMER COMMODITY, ORM-D.

- **T.D.G. CLASSIFICATION**: CONSUMER COMMODITY (AEROSOLS, UN1950, CLASS 2.1).

Section 15: REGULATORY INFORMATION

- **CANADIAN REGULATIONS**: 
  - WHMIS CLASSIFICATION: A,D2B.
  - CNFC SECTION 3.3.5: LEVEL 3.
  - CEPA (Canadian Environmental Protection Act): ALL SUBSTANCES IN THIS PRODUCT ARE LISTED ON THE CANADIAN DOMESTIC SUBSTANCES LIST (DSL) OR ARE NOT REQUIRED TO BE LISTED.

- **U.S. REGULATIONS**: 
  - HMIS RATING HEALTH: 1 SLIGHT HAZARD.
  - HMIS RATING FLAMMABILITY: 1 SLIGHT HAZARD.
  - HMIS RATING REACTIVITY: 0 MINIMAL HAZARD.
  - HMIS RATING PERSONAL PROTECTION: B.
  - NFPA CODE 30B: LEVEL 3.

- **CALIFORNIA PROPOSITION 65**: THE FOLLOWING STATEMENT IS MADE IN ORDER TO COMPLY WITH THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986: WARNING: THIS PRODUCT DOES NOT INTENTIONALLY CONTAIN ANY CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

- **TSCA (Toxic Substances Control Act)**: ALL COMPONENT OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY. ANY IMPURITIES PRESENT IN THIS PRODUCT ARE EXEMPT FROM LISTING.

- **VOC (w/w%)**: 12-13.

Section 16: OTHER INFORMATION

- **NOTICE FROM OSBORN INTERNATIONAL**: THE INFORMATION ON THIS MATERIAL SAFETY DATA SHEET IS PROVIDED BY OSBORN INTERNATIONAL FREE OF CHARGE. WHILE BELIEVED TO BE RELIABLE, IT IS INTENDED FOR USE BY SKILLED PERSONS AT THEIR OWN RISK. OSBORN INTERNATIONAL ASSUMES NO RESPONSIBILITY FOR EVENTS RESULTING OR DAMAGES INCURRED FROM ITS USE. THE INFORMATION ON THIS MATERIAL SAFETY DATA SHEET RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DOES NOT RELATE TO USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PROCESS.

- **PREPARED BY**: Regulatory Affairs
PRODUCT: 1515-01-001 76203 CUTTING OIL 11.75oz (333g)

Section 16: OTHER INFORMATION

PREPARATION DATE .............................. Aug27/13
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product identifier**

**Product name**  
97673  TEF-GEL

**Recommended use of the chemical and restrictions on use**

**Product code**  
F00829

**Product Type**  
Extremely flammable aerosol

**Synonyms**

**Supplier's details**

**Recommended Use**  
Gel Lubricant.

**Uses advised against**

**Manufactured For:**  
Lawson Products, Inc  
8770 W. Bryn Mawr Avenue - Suite 900  
Chicago, IL 60631-3515

**Emergency telephone number**

**Company Emergency Phone Number**  
888-426-4851
2. HAZARDS IDENTIFICATION

Classification

<table>
<thead>
<tr>
<th>Germ Cell Mutagenicity</th>
<th>Category 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity</td>
<td>Category 1A</td>
</tr>
<tr>
<td>Aspiration toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Flammable aerosols</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Emergency Overview

DANGER

Hazard Statements
May cause genetic defects
May cause cancer
May be fatal if swallowed and enters airways
Extremely flammable aerosol

Appearance  Slightly Hazy  

Physical state  Aerosol

Odor  Solvent

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Other information
• May be harmful in contact with skin

16.86256% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #  64742-49-0, COMMERCIAL HEXANES, MAY BE SUBSTITUTED FOR  CAS #110-54-3.

Synonyms


### Chemical Name

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXANE</td>
<td>64742-49-0</td>
<td>60 - 70%</td>
</tr>
<tr>
<td>PROPANE/ISOBUTANE/N-BUTANE</td>
<td>68476-86-8</td>
<td>10 - 20%</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

---

### 4. FIRST AID MEASURES

**First aid measures for different exposure routes**

**Eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact**
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

**Inhalation**
Move to fresh air. If symptoms persist, call a physician.

**Ingestion**
Do NOT induce vomiting. If symptoms persist, call a physician.

**Most important symptoms/effects, acute and delayed**

**Main Symptoms**
Not applicable.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician**
Treat symptomatically.

---

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**
Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

**Specific hazards arising from the chemical**
No information available.

**Explosion Data**
- Sensitivity to Static Discharge: Yes.

**Protective Equipment and Precautions for Firefighters**
As in any fire, 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**
Ensure adequate ventilation.

**Environmental precautions**
Environmental precautions  
No special environmental precautions required.

Methods and materials for containment and cleaning up

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

Methods for cleaning up  
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling  
Avoid contact with eyes. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions  
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible products  
None known based on information supplied.

Aerosol Level  
3

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines
ACGIH: (American Conference of Governmental Industrial Hygienists)
OSHA: (Occupational Safety & Health Administration)
NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines  
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 982 (11th Cir., 1992).

Exposure controls

Engineering Measures  
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/ Face Protection  
Safety glasses with side-shields.

Skin and body protection  
Chemical resistant apron. Protective gloves.

Respiratory protection  
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures  
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES
### Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks - Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>No information available</td>
<td>not applicable</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>-96.4 °C / -141 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>upper flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>lower flammability limit</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.720</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Practically insoluble</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

#### Other information

- VOC Content(%): 78.76

### 10. STABILITY AND REACTIVITY

#### Reactivity

- No data available

#### Chemical stability

- Stable under recommended storage conditions.

#### Possibility of hazardous reactions

- None under normal processing.

#### Conditions to Avoid

- Extremes of temperature and direct sunlight.

#### Incompatible Materials

- None known based on information supplied.

#### Hazardous Decomposition Products

- None known based on information supplied.

### 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

- **Product Information**
  - Product does not present an acute toxicity hazard based on known information

- **Inhalation**
  - There is no data available for this product.

- **Eye contact**
  - There is no data available for this product.
Skin contact There is no data available for this product.

Ingestion There is no data available for this product.

### Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXANE 64742-49-0</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 3160 mg/kg</td>
<td>73680 ppm</td>
</tr>
</tbody>
</table>

### Information on toxicological effects

#### Symptoms
No information available.

#### Delivered and immediate effects as well as chronic effects from short and long-term exposure

- **Sensitization**: No information available.
- **Germ Cell Mutagenicity**: No information available.
- **Carcinogenicity**: There are no known carcinogenic chemicals in this product. This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).
- **Reproductive toxicity**: No information available.
- **Specific target organ systemic toxicity (single exposure)**: No information available.
- **Specific target organ systemic toxicity (repeated exposure)**: No information available.
- **Central nervous system, Eyes, Peripheral Nervous System (PNS), Respiratory system, Skin**
- **Aspiration hazard**: No information available.

#### Numerical measures of toxicity - Product Information

**Unknown Aquatic Toxicity**: 16.86256% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

- ATEmix (oral) 6980 mg/kg
- ATEmix (dermal) 4702 mg/kg

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXANE 64742-49-0</td>
<td></td>
<td></td>
<td></td>
<td>2.6: 96 h Chaetogammarus marinus mg/L LC50</td>
</tr>
</tbody>
</table>

#### Persistence and degradability
No information available.

#### Bioaccumulation
No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPANE/ISOBUTANE/N-BUTANE 68476-86-8</td>
<td>2.8</td>
</tr>
</tbody>
</table>

#### Other adverse effects
No information available.

### 13. DISPOSAL CONSIDERATIONS
Waste treatment

Waste Disposal Methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging
Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT Ground
CONSUMER COMMODITY ORM-D
or
LIMITED QUANTITY

IATA
UN1950, AEROSOLS, FLAMMABLE, 2.1, LTD. QTY.

IMDG
UN1950, AEROSOLS, 2.1, LTD. QTY.

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEXANE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PROPANE/ISOBUTANE/N-BUTANE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Not listed</td>
<td>X</td>
<td>Present</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

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.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>
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).

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

U.S. State Regulations

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

U.S. State Right-to-Know Regulations

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2*</td>
<td>4</td>
<td>1</td>
<td>B</td>
</tr>
</tbody>
</table>

Chronic Hazard Star Legend
Chronic Health Hazard; Repeated or prolonged exposure may cause central nervous system damage

Prepared By Maureen Ruggeberg, Regulatory Affairs Specialist
Issuing date 11-Feb-2014
Revision Date 11-Feb-2014
Revision Note No information available

Disclaimer
The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet
SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY INFORMATION
H.B. Fuller Construction Products Inc.
1105 S. Frontenac Street
Aurora, IL 60504
Phone: 1-800-552-6225

PRODUCT INFORMATION
PRODUCT NUMBER: TA0650 957
PRODUCT NAME: ACCUCOLOR SANDED GROUT
PRODUCT DESCRIPTION: Cement
PRODUCT IDENTIFIER: 805153PM

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
PHYSICAL STATE: Solid
COLOR: Opaque Gray
ODOR: Odorless

Moderate eye irritant.
Causes skin irritation.
Moderate respiratory tract irritant.
Harmful if swallowed.
Cancer hazard.

POTENTIAL HEALTH EFFECTS BY ROUTE OF ENTRY
EYE: Can cause moderate irritation, tearing and reddening.
SKIN: Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
INHALATION: Can cause moderate respiratory irritation. Inhalation of dusts produced during cutting, grinding or sanding of this product may cause irritation of the respiratory tract. Nasal perforation is possible from a single large or repeated smaller inhalation overexposures. Overexposure to crystalline silica may cause silicosis. Overexposure to iron oxide dust/fume may cause siderosis. Inhalation of high concentrations may result in central nervous system (CNS) effects such as dizziness, weakness, fatigue, nausea, headache, and lack of coordination. Overexposure to nickel dust may cause perforated nasal septum, chest pain, coughing, lung disease, cyanosis, and blood disorders.
INGESTION: Ingestion is not an anticipated route of exposure. Harmful if swallowed. Severely irritating to mouth, throat, and stomach.

LONG-TERM (CHRONIC) HEALTH EFFECTS
TARGET ORGAN(S): Lungs Central nervous system Skin

REGULATED CARCINOGEN STATUS:
Unless noted below, this product does not contain regulated levels of NTP, IARC, ACGIH, or OSHA listed carcinogens.
Crystalline silica
Titanium dioxide
Nickel compounds
EXISTING HEALTH CONDITIONS AFFECTED BY EXPOSURE: Lung disease; Skin disease including eczema and sensitization

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica</td>
<td>14808-60-7</td>
<td>50 - 70</td>
</tr>
<tr>
<td>Portland cement</td>
<td>65997-15-1</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>471-34-1</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>1309-37-1</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>7778-18-9</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Calcium oxide, CaO</td>
<td>1305-78-8</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Magnesium Oxide</td>
<td>1309-48-4</td>
<td>1 - 5</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>0.1 - 1</td>
</tr>
<tr>
<td>Nickel compounds</td>
<td></td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

Unlisted ingredients are not 'hazardous' per the Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200) and/or are not found on the Canadian Workplace Hazardous Materials Information System ingredient disclosure list. See Section 8 for exposure limit guidelines.

SECTION 4: FIRST AID MEASURES

IF IN EYES: Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

IF ON SKIN: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

IF VAPORS INHALED: Remove to fresh air. Restore breathing, if necessary. Call a physician if symptoms persist.

IF SWALLOWED: Severely irritating. Do not induce vomiting. Seek medical attention immediately. Drink 2 glasses of water or milk to dilute. Do not give anything by mouth to an unconscious person.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: Non flammable
AUTOIGNITION TEMPERATURE: Not established
LOWER EXPLOSIVE LIMIT (% in air): Not established
UPPER EXPLOSIVE LIMIT (% in air): Not established
EXTINGUISHING MEDIA: Use methods suitable to fight surrounding fire.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Material will not burn.
SPECIAL FIRE FIGHTING INSTRUCTIONS: Use methods for the surrounding fire.
HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, Carbon monoxide Sulfur containing gases

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPECIAL PROTECTION: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred.
MATERIAL SAFETY DATA SHEET

CLEAN-UP: Avoid creating dusts. Cover material with absorbent and moisten and collect for disposal.

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION 7: HANDLING AND STORAGE

Handling: Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Avoid breathing material. This product contains an ingredient that may release formaldehyde at heated cure temperatures.

Storage: Store in a cool, dry place. Consult the Technical Data Sheet for specific storage instructions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION: Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.

SKIN PROTECTION: Avoid skin contact by wearing chemically resistant gloves and long sleeved shirt. An apron may be appropriate if splashing can occur.

GLOVES: Nitrile

RESPIRATORY PROTECTION: Respiratory protection may be required to avoid overexposure when handling this product. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. NIOSH approved air purifying respirator with dust/mist filter. Respirators should be selected by and used following requirements found in OSHA’s respirator standard (29 CFR 1910.134).

VENTILATION: Use local exhaust ventilation or other engineering controls to minimize exposures.

EXPOSURE LIMITS:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH EXPOSURE LIMITS</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica</td>
<td>0.025 mg/m³ TWA (respirable fraction)</td>
<td>((250)/(%SiO₂ + 5) mppcf TWA (respirable));</td>
</tr>
<tr>
<td></td>
<td></td>
<td>((10)/(%SiO₂ + 2) mg/m³ TWA (respirable));</td>
</tr>
<tr>
<td></td>
<td></td>
<td>((30)/(%SiO₂ + 2) mg/m³ TWA (total dust))</td>
</tr>
<tr>
<td>Portland cement</td>
<td>1 mg/m³ TWA (particulate matter containing no asbestos and &lt;1% crystalline silica, respirable fraction)</td>
<td>15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>Not established</td>
<td>15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>5 mg/m³ TWA (respirable fraction)</td>
<td>10 mg/m³ TWA (as fume)</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>10 mg/m³ TWA (inhalable fraction)</td>
<td>15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)</td>
</tr>
<tr>
<td>Calcium oxide, CaO</td>
<td>2 mg/m³ TWA</td>
<td>5 mg/m³ TWA</td>
</tr>
<tr>
<td>Magnesium Oxide</td>
<td>10 mg/m³ TWA (inhalable fraction)</td>
<td>15 mg/m³ TWA (total particulate) (as fume)</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>10 mg/m³ TWA</td>
<td>15 mg/m³ TWA (total dust)</td>
</tr>
</tbody>
</table>
Nickel compounds | 0.1 mg/m³ TWA (inhalable fraction, as Ni, soluble inorganic compounds); 0.1 mg/m³ TWA (inhalable fraction, as Ni, insoluble inorganic compounds) | 1 mg/m³ TWA (as Ni)

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICAL STATE</td>
<td>Solid</td>
</tr>
<tr>
<td>COLOR</td>
<td>Opaque Gray</td>
</tr>
<tr>
<td>ODOR</td>
<td>Odorless</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Not established</td>
</tr>
<tr>
<td>WEIGHT PER GALLON (lbs.)</td>
<td>11.60</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>1.390</td>
</tr>
<tr>
<td>SOLIDS (% by weight)</td>
<td>100.0</td>
</tr>
<tr>
<td>pH</td>
<td>Not established</td>
</tr>
<tr>
<td>FLASH POINT</td>
<td>Non flammable</td>
</tr>
<tr>
<td>BOILING POINT (deg. C)</td>
<td>Not established</td>
</tr>
<tr>
<td>FREEZING/MELTING POINT (deg. C)</td>
<td>Not established</td>
</tr>
<tr>
<td>VAPOR PRESSURE (mm Hg)</td>
<td>Not established</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>Not established</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Not established</td>
</tr>
<tr>
<td>OCTANOL/WATER COEFFICIENT</td>
<td>Not established</td>
</tr>
<tr>
<td>VOC, weight percent</td>
<td>0.00</td>
</tr>
</tbody>
</table>

### SECTION 10: STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STABILITY</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>CHEMICAL INCOMPATIBILITY</td>
<td>Not established</td>
</tr>
<tr>
<td>HAZARDOUS POLYMERIZATION</td>
<td>Will not occur.</td>
</tr>
<tr>
<td>HAZARDOUS DECOMPOSITION PRODUCTS</td>
<td>Carbon monoxide, carbon dioxide Sulfur containing gases</td>
</tr>
</tbody>
</table>

### SECTION 11: TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica</td>
<td>Not established</td>
</tr>
<tr>
<td>Portland cement</td>
<td>Not established</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>Oral LD50 Rat = 6,450 mg/kg</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>Not established</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>Not established</td>
</tr>
<tr>
<td>Calcium oxide, CaO</td>
<td>Not established</td>
</tr>
<tr>
<td>Magnesium Oxide</td>
<td>Not established</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>Not established</td>
</tr>
<tr>
<td>Nickel compounds</td>
<td>Not established</td>
</tr>
</tbody>
</table>

TOXICOLOGY SUMMARY: No additional health information available.
MATERIAL SAFETY DATA SHEET

SECTION 12: ECOLOGICAL INFORMATION
OVERVIEW: No ecological information available

SECTION 13: DISPOSAL CONSIDERATIONS
To the best of our knowledge, this product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Dispose of in an approved landfill. Consult your state, local or provincial authorities and your local waste vendor for more restrictive requirements.

SECTION 14: TRANSPORTATION INFORMATION
Consult Bill of Lading for transportation information.
DOT: NOT REGULATED
IATA: NOT REGULATED

SECTION 15: REGULATORY INFORMATION
INVENTORY STATUS
U.S. EPA TSCA: This product is in compliance with the Toxic Substances Control Act's Inventory requirements.
CANADIAN CEPA DSL: The components of this product are included on the DSL or are exempt from DSL requirements.
EUROPEAN EINECS: As a result of the introduction of REACH into Europe, this product cannot be imported into Europe unless the REACH requirements are met.

If you need more information about the inventory status of this product call 651-236-5858.

This product may contain chemical substances that are regulated for export by various government agencies (such as the Environmental Protection Agency, the Bureau of Industry and Security, or the Drug Enforcement Administration, among others). Before exporting this product from the USA or Canada, we recommend you contact us at 651-236-5858 (USA) or 450-655-1306 x227 (Canada) to request an export review.

FEDERAL REPORTING
EPA SARA Title III Section 313
Unless listed below, this product does not contain toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372. EPA has advised that when a percentage range is listed the midpoint may be used to fulfill reporting obligations.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel compounds</td>
<td>0.1 - 1</td>
<td></td>
</tr>
</tbody>
</table>

WHMIS STATUS: Unless listed below, this product is not controlled under the Canadian Workplace Hazardous Materials Information System.

D2A D2B

STATE REPORTING
Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986:
Unless listed below, this product does not contain known levels of any chemical known to the State of California to cause cancer or reproductive harm.

<table>
<thead>
<tr>
<th>Chemical Name/List</th>
<th>CAS</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (Carcinogen)</td>
<td>14808-60-7</td>
<td>50 - 70</td>
</tr>
<tr>
<td>Titanium dioxide (Carcinogen)</td>
<td>13463-67-7</td>
<td>0.1 - 1</td>
</tr>
<tr>
<td>Nickel (Carcinogen)</td>
<td></td>
<td>0.1 - 1</td>
</tr>
<tr>
<td>Methanol (Developmental toxin)</td>
<td>67-56-1</td>
<td>&lt; .10 ppm</td>
</tr>
</tbody>
</table>
SECTION 16: ADDITIONAL INFORMATION

This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

HMIS RATING: HEALTH -- 2 FLAMMABILITY -- 0 REACTIVITY -- 0
See SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for personal protective equipment recommendations.

Prepared by: The Global Regulatory Department
Phone: 651-236-5842

The information and recommendations set forth herein are believed to be accurate. Because some of the information is derived from information provided to H.B. Fuller Construction Products, Inc. from its suppliers, and because H.B. Fuller Construction Products, Inc. has no control over the conditions of handling and use, H.B. Fuller Construction Products, Inc. makes no warranty, expressed or implied, regarding the accuracy of the data or the results to be obtained from the use thereof. The information is supplied solely for your information and consideration, and H.B. Fuller Construction Products, Inc. assumes no responsibility for use or reliance thereon. It is the responsibility of the user of H.B. Fuller Construction Products, Inc. products to comply with all applicable federal, state and local laws and regulations.
Material Safety Data Sheet

Material Name: AquaScent (Apple-Pear)

* * *  Section 1 - Chemical Product and Company Identification  * * *

Manufactured for
F-MATIC Inc.
299 S Millpond Dr
Lehi, UT  84043
Phone: 801-768-2000
Fax: 888-878-8828

* * *  Section 2 - Hazards Identification  * * *

Emergency Overview
May cause skin and eye irritation.

Potential Health Effects: Eyes
May cause eye irritation.

Potential Health Effects: Skin
May cause irritation.

Potential Health Effects: Ingestion
Not a likely route of exposure under normal product use conditions. May cause gastrointestinal irritation if swallowed.

Potential Health Effects: Inhalation
None anticipated under normal product use conditions. May cause dizziness and nausea from prolonged inhalation.

HMIS Ratings: Health: 1 Fire: 1 HMIS Reactivity 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe  * = Chronic hazard

* * *  Section 3 - Composition / Information on Ingredients  * * *

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>51229-78-8</td>
<td>3,5,7-Triaza-1-azoniatricyclo[3.3.1.13, ]decane, 1-(3-chloro-2-propenyl)-, chloride, (Z)-</td>
</tr>
<tr>
<td>8050-81-5</td>
<td>Simethicone</td>
</tr>
<tr>
<td>1934-21-0</td>
<td>FD&amp;C yellow No. 5</td>
</tr>
<tr>
<td>2353-45-9</td>
<td>Fast green</td>
</tr>
<tr>
<td>Trade Secret</td>
<td>Fragrance</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
</tr>
</tbody>
</table>

* * *  Section 4 - First Aid Measures  * * *

First Aid: Eyes
Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

First Aid: Skin
For skin contact, wash immediately with soap and water.

First Aid: Ingestion
If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

First Aid: Inhalation
Move person to non-contaminated air. If the affected person is not breathing, apply artificial respiration.

* * *  Section 5 - Fire Fighting Measures  * * *

General Fire Hazards
See Section 9 for Flammability Properties.
None

Hazardous Combustion Products
Not Determined.

Extinguishing Media
Use extinguishing media appropriate for surrounding fire.

Fire Fighting Equipment/Instructions
Firefighters should wear full protective gear.
Material Safety Data Sheet

Material Name: AquaScent (Apple-Pear)

NFPA Ratings: Health: 1 Fire: 1 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures
Contain the discharged material.

Clean-Up Procedures
Contain spilled material with a suitable absorbent material.

Evacuation Procedures
Isolate area. Keep unnecessary personnel away.

Special Procedures
Follow all Local, State, Federal and Provincial regulations for disposal.

*** Section 7 - Handling and Storage ***

Handling Procedures
No special handling procedures necessary.

Storage Procedures
Keep this material in a cool, well-ventilated place.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits
ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

Engineering Controls
Local exhaust is suggested for use, where possible, in enclosed or confined spaces.

PERSONAL PROTECTIVE EQUIPMENT
Personal Protective Equipment: Eyes/Face
Wear safety glasses with side shields.

Personal Protective Equipment: Skin
None necessary.

Personal Protective Equipment: Respiratory
Not normally needed.

Personal Protective Equipment: General
Eye wash fountain is recommended.

*** Section 9 - Physical & Chemical Properties ***

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light Green</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>ND</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt;100°C</td>
</tr>
<tr>
<td>Solubility (H2O)</td>
<td>Complete</td>
</tr>
<tr>
<td>Octanol/H2O Coeff.</td>
<td>ND</td>
</tr>
<tr>
<td>Flash Point Method</td>
<td>ND</td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>NA</td>
</tr>
<tr>
<td>Auto Ignition</td>
<td>NA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor</td>
<td>Apple-Pear</td>
</tr>
<tr>
<td>pH</td>
<td>ND</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>ND</td>
</tr>
<tr>
<td>Melting Point</td>
<td>ND</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.028@25°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>NA</td>
</tr>
<tr>
<td>Upper Flammability Limit</td>
<td>NA</td>
</tr>
<tr>
<td>(UFL)</td>
<td></td>
</tr>
<tr>
<td>Burning Rate</td>
<td>NA</td>
</tr>
</tbody>
</table>

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability
This is a stable material.

Chemical Stability: Conditions to Avoid
None

Incompatibility
None

Hazardous Decomposition
Not Determined

Page 2 of 4 Issue Date: 09/24/08 Revision: 1.0000 Print Date: 11/3/2008
Material Safety Data Sheet

Material Name: AquaScent (Apple-Pear)

Possibility of Hazardous Reactions
Will not occur.

*** Section 11 - Toxicological Information ***

Acute Dose Effects
A: General Product Information
No information available for the product.

B: Component Analysis - LD50/LC50
FD&C yellow No. 5 (1934-21-0)
Oral LD50 Mouse: 12750 mg/kg

Fast green (2353-45-9)
Oral LD50 Rat: >2 g/kg

Water (7732-18-5)
Oral LD50 Rat: >90 mL/kg

Carcinogenicity
A: General Product Information
No information available for the product.

B: Component Carcinogenicity
Fast green (2353-45-9)
IARC: Supplement 7 [1987], Monograph 16 [1978] (Group 3 (not classifiable))

*** Section 12 - Ecological Information ***

Ecotoxicity
A: General Product Information
No information available for the product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity
No ecotoxicity data are available for this product's components.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

Component Waste Numbers
No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions
All wastes must be handled in accordance with local, state and federal regulations.
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information
Shipping Name: Not Regulated

*** Section 15 - Regulatory Information ***

US Federal Regulations

Component Analysis
None of this product's components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations
Material Safety Data Sheet

Material Name: AquaScent (Apple-Pear)

Component Analysis - State
The following components appear on one or more of the following state hazardous substances lists:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>CA</th>
<th>MA</th>
<th>MN</th>
<th>NJ</th>
<th>PA</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast green</td>
<td>2353-45-9</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Component Analysis - WHMIS IDL
No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>TSCA</th>
<th>CAN</th>
<th>EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>FD&amp;C yellow No. 5</td>
<td>1934-21-0</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>Fast green</td>
<td>2353-45-9</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>3,5,7-Triaza-1azoniatricyclo[3.3.1.13, ]decane, 1-((3-chloro-2-propenyl)-, chloride, (Z)-</td>
<td>51229-78-8</td>
<td>No</td>
<td>DSL</td>
<td>ELINCS</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Yes</td>
<td>DSL</td>
<td>EINECS</td>
</tr>
<tr>
<td>Simethicone</td>
<td>8050-81-5</td>
<td>No</td>
<td>DSL</td>
<td>No</td>
</tr>
</tbody>
</table>

*** Section 16 - Other Information ***

Other Information
The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Key/Legend
EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.
Section I -- PRODUCT & COMPANY IDENTIFICATION

PRODUCT NUMBER E404
PRODUCT NAME Battery Cleaner and Acid Detector
HMIS CODES Health: 2, Flammability: 4, Reactivity: 0

MANUFACTURER’S NAME The Noco® Company
EMERGENCY TELEPHONE NO. (800) 424-9300
DATE OF PREPARATION 15-MARCH-2011
INFORMATION TELEPHONE NO. (800) 456-6626

Section II -- COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>% by WT</th>
<th>CAS No.</th>
<th>INGREDIENT</th>
<th>UNITS</th>
<th>VAPOR PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>74-98-6</td>
<td>Propane</td>
<td>ACGIH TLV</td>
<td>2500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>7</td>
<td>106-97-8</td>
<td>Butane</td>
<td>ACGIH TLV</td>
<td>800 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL</td>
<td>800 ppm</td>
</tr>
<tr>
<td>6</td>
<td>67-63-0</td>
<td>2-Propanol</td>
<td>ACGIH TLV</td>
<td>400 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL</td>
<td>500 ppm STEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL</td>
<td>400 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL</td>
<td>500 ppm STEL</td>
</tr>
<tr>
<td>1</td>
<td>1333-86-4</td>
<td>Carbon Black</td>
<td>ACGIH TLV</td>
<td>3.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA PEL</td>
<td>150 ppm</td>
</tr>
</tbody>
</table>

Section III -- HAZARDOUS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE
Irritation of eyes, skin and upper respiratory system.
May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.
Section IV -- FIRST AID MEASURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED: Do not induce vomiting. Get medical attention immediately.

Section V -- FIRE FIGHTING MEASURES

FLASH POINT LEL UEL
Propellant <0 °F 1.9 12.7

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Alcohol Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS
Containers may explode (due to the build-up of pressure) when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent.
Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section VI -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area. Remove with inert absorbent.

Section VII -- HANDLING AND STORAGE

STORAGE CATEGORY
Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

Section VIII -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation.
Avoid contact with skin and eyes.
Avoid breathing vapor and spray mist.
Wash hands after using.

VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES
None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

Continued on page 3
EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

---

**Section IX -- PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT WEIGHT</td>
<td>7.70 lb/gal</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY</td>
<td>0.93</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>&lt;0 - 213 °F</td>
</tr>
<tr>
<td>MELTING POINT</td>
<td>Not available</td>
</tr>
<tr>
<td>VOLATILE VOLUME</td>
<td>98 %</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Faster than ether</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>Heavier than air</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>N.A.</td>
</tr>
<tr>
<td>VOLATILE ORGANIC COMPOUNDS</td>
<td>(VOC Theoretical) Volatile weight 15.90% Less Water and Federally Exempt Solvents</td>
</tr>
</tbody>
</table>

---

**Section X -- STABILITY AND REACTIVITY**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>STABILITY</td>
<td>Stable</td>
</tr>
<tr>
<td>CONDITIONS TO AVOID</td>
<td>None known</td>
</tr>
<tr>
<td>INCOMPATIBILITY</td>
<td>None known</td>
</tr>
<tr>
<td>HAZARDOUS DECOMPOSITION PRODUCTS</td>
<td>By fire: Carbon Dioxide, Carbon Monoxide</td>
</tr>
<tr>
<td>HAZARDOUS POLYMERIZATION</td>
<td>Will not occur</td>
</tr>
</tbody>
</table>

---

**Section XI -- TOXICOLOGICAL INFORMATION**

**CHRONIC HEALTH HAZARDOUS**

No ingredient in this product is an IARC, NTP or OSHA list carcinogen. Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

**TOXICOLOGY DATA**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient Name</th>
<th>LC50</th>
<th>LD50</th>
<th>4HR</th>
<th>Not Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>74-98-6</td>
<td>Propane</td>
<td></td>
<td></td>
<td></td>
<td>Not Available</td>
</tr>
<tr>
<td>106-97-8</td>
<td>Butane</td>
<td></td>
<td></td>
<td></td>
<td>Not Available</td>
</tr>
<tr>
<td>67-63-0</td>
<td>2-Propanol</td>
<td></td>
<td></td>
<td></td>
<td>Not Available</td>
</tr>
</tbody>
</table>

---

**Section XII -- ECOLOGICAL INFORMATION**

**ECOTOXICOLOGICAL INFORMATION**

No data available

---

**Section XIII -- DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers. Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulation regarding pollution.

---

**Section XIV -- TRANSPORT INFORMATION**

No data available

*Continued on page 4*
Section XV -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No. | CHEMICAL/COMPOUND | % by WT | % Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C)

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section XVI -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formatted, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.
I - Product Identification

Clean Coil

PRODUCT CODE: 0103
CHEMICAL FORMULATION: Inorganic acid cleaner.
NFPA HAZARD IDENTIFICATION SYSTEM:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - Extreme;</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

II - Hazardous Ingredients

Values reported as TWA unless noted.

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>APPROX</th>
<th>OSHA</th>
<th>ACGIH</th>
<th>EPA 40 CFR:</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid</td>
<td>10.0-20.0</td>
<td>1 mg/m³</td>
<td>1 mg/m³</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Hydrofluoric Acid</td>
<td>5.0-10.0</td>
<td>3 ppm</td>
<td>3 ppm</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Quaternary ammonium compounds</td>
<td>&lt;5.0</td>
<td>N/E</td>
<td>N/E</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Key:

- **PEL**: Permissible Exposure Limit
- **TLV**: Threshold Limit Value
- **C**: Ceiling level
- **STEL**: Short Term Exposure Limit
- **N/A**: Not Applicable
- **N/D**: Not Determined
- **N/E**: Not Established
- **Y**: Yes
- **N**: No

372: SARA TITLE III / List of Toxic Chemicals subject to Release Reporting (Community Right to Know) (40 CFR 372).

III - Physical Data

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILING POINT (°F):</td>
<td>N/D</td>
</tr>
<tr>
<td>VAPOR PRESSURE (mm Hg):</td>
<td>N/D</td>
</tr>
<tr>
<td>VAPOR DENSITY (AIR = 1):</td>
<td>N/D</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER:</td>
<td>Soluble</td>
</tr>
<tr>
<td>pH:</td>
<td>1.00</td>
</tr>
<tr>
<td>APPEARANCE AND ODOR:</td>
<td>Clear, slight yellow liquid; characteristic acid odor.</td>
</tr>
</tbody>
</table>

SPECIFIC GRAVITY (WATER = 1): 1.139
VOC CONTENT (% by weight): <5.0
EVAPORATION RATE (WATER = 1): N/D

IV - Fire and Explosion Hazard Data

FLASH POINT (°F): None.
(TEST METHOD): Closed cup
FLAMMABLE LIMITS IN AIR (VOLUME %): UPPER: N/A  LOWER: N/A

EXTINGUISHING MEDIA: Water spray, foam, carbon dioxide, dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters must be equipped with full protective gear, including self-contained breathing apparatus. Cool fire exposed containers with water spray. Run-off from fire control may cause pollution. Neutralize run-off with lime, soda ash, etc.

UNUSUAL FIRE AND EXPLOSION HAZARD: Acid may react with metals to create explosive hydrogen accumulations. Fire may produce toxic fumes. Product generates heat upon addition of water, with possible spattering.
V - Reactivity Data

STABILITY: Stable
INCOMPATIBILITY: Alkaline materials, metal salts, oxidizing materials and organic materials.
CONDITIONS TO AVOID: Do not mix with chlorine bleach, ammonia or any other cleaning chemical.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition can produce a wide variety of toxic gases and vapors.
HAZARDOUS POLYMERIZATION: Will not occur.

VI - Health Hazard Data

ROUTES OF ENTRY INHALATION: X EYE CONTACT: X SKIN CONTACT: X INGESTION: X

INGREDIENTS THAT ARE CONSIDERED BY OSHA, NTP, IARC TO BE SUSPECTED HUMAN CARCINOGENS: None.

EFFECTS OF OVEREXPOSURE
IF IN EYES: DANGER Corrosive-Severe irritation, burns, destruction of tissue, blindness.
IF ON SKIN: DANGER Corrosive-Severe irritation, deep ulcerations that may not be immediately painful or evident. Hydrofluoric acid will penetrate the skin and attack underlying tissues and bone. Large burns may also cause hypocalcemia and other toxic effects which may be fatal.
IF SWALLOWED: MAY BE HARMFUL OR FATAL IF SWALLOWED. Severe burns, destruction of tissue. Small amounts or dilute solutions fatal hypocalcemia and systemic toxicity is likely to occur unless medical treatment is immediately obtained.
IF INHALED: Short-term exposure causes nose, throat & respiratory irritation which may be delayed for several hours. Long-term exposure causes nose and throat burns, lung inflammation, pulmonary edema and fatal hypocalcemia.

EMERGENCY AND FIRST AID PROCEDURES
IF IN EYES: Flush eyes and under eyelids with plenty of cool water for at least 15 minutes. Obtain immediate medical attention.
IF ON SKIN: Flush with plenty of cool water for at least 15 minutes while removing contaminated clothing and shoes. Pay close attention to area under nails. Obtain medical attention immediately! Follow by immersing affected skin in an ice cold solution of magnesium sulfate (Epsom Salt) or using a calcium gluconate gel.
IF SWALLOWED: DO NOT INDUCE VOMITING. Give large quantities of water followed with several glasses of milk or several ounces of milk of magnesia. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.
IF INHALED: Remove person to fresh air. Administer artificial respiration if indicated. If breathing is difficult, give oxygen. Keep person warm and quiet. Obtain medical attention immediately.

VII - Spill or Leak Protection

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Ventilate area. Contain spill. Soak up spilled material with inert absorbent material and place in a properly marked closed container for proper disposal.
WASTE DISPOSAL METHOD: Consult local environmental authorities.

VIII - Special Protection Information

RESPIRATORY PROTECTION: Use with adequate ventilation. Do not breathe vapors or mists. If recommended Exposure Limits are exceeded wear a NIOSH approved respirator, following manufacturer’s recommendations.
VENTILATION LOCAL: Recommended MECHANICAL: Recommended
PROTECTIVE GLOVES: Chemical resistant gauntlet type gloves.
EYE PROTECTION: Chemical goggles and/or face shield.
OTHER PROTECTIVE EQUIPMENT: Protective clothing, emergency shower and eye wash station.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Corrosive material. Store in a cool, dry place away from alkaline materials and reactive chemicals. Do not mix with any other cleaning chemicals. Always add this product to water, never add water to this product. Wash thoroughly after handling.
OTHER PRECAUTIONS: Keep out of reach of children.
SECTION 1 - IDENTIFICATION

PRODUCT NAME: DIESEL FUEL SUPPLEMENT +CETANE BOOST

Unless otherwise noted, all sections of this SDS apply to each of the following products and part numbers.

PART NUMBERS:

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400</td>
<td>1016-06, 1016-09, 1025-06, 1025-09, 1025-12, 1080-06, 11016-06, 11016-09, 11025-06, 11025-12, 11080-06</td>
</tr>
<tr>
<td>1:1,000</td>
<td>1000, 1128-04, 1060-01</td>
</tr>
<tr>
<td>1:1,500</td>
<td>1050-02, 1055-01, 1260-01</td>
</tr>
</tbody>
</table>

COMPANY IDENTIFICATION:
Power Service Products, Inc.
P.O. Box 1089
Weatherford, TX 76086
Email: psp@powerservice.com
Phone: 800-643-9089 or 817-599-9486
Fax: 817-599-4893

Emergency Phone Number: Within USA 1-800-424-9300. Outside USA 001-703-527-3887 (Call Collect).

RECOMMENDED USES: Diesel fuel additive

SECTION 2 – HAZARD(S) IDENTIFICATION

CLASSIFICATION UNDER 29 CFR 1910.1200(d)

*(NC=product does not meet classification criteria)*

<table>
<thead>
<tr>
<th>Health Hazard Criteria</th>
<th>1:400 Treatment Ratio</th>
<th>1:1000 Treatment Ratio</th>
<th>1:1500 Treatment Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Category</td>
<td>Category</td>
<td>Category</td>
</tr>
<tr>
<td>Acute Toxicity, Oral:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Acute Toxicity, Dermal:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Acute Toxicity, Inhalation, Vapors:</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Revised: May 30, 2015
Supersedes: April 1, 2015
POWER SERVICE DIESEL FUEL SUPPLEMENT +CETANE BOOST
<table>
<thead>
<tr>
<th>Health Hazard Criteria</th>
<th>1:400 Treatment Ratio</th>
<th>1:1000 Treatment Ratio</th>
<th>1:1500 Treatment Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation:</td>
<td>Category</td>
<td>Category</td>
<td>Category</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation:</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Respiratory Sensitization:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Skin Sensitization:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Reproductive Toxicity:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity, Single Exposure:</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity, Repeated or Prolonged Exposure:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Aspiration Hazard:</td>
<td>1</td>
<td>1</td>
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</table>

<table>
<thead>
<tr>
<th>Physical Properties Criteria</th>
<th>1:400 Treatment Ratio</th>
<th>1:1000 Treatment Ratio</th>
<th>1:1500 Treatment Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosives:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Flammable Gases:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Flammable Aerosols:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Oxidizing Gases:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Gases Under Pressure:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Flammable Liquids:</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Flammable Solids:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Self-Reactive Chemicals:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Pyrophoric Liquids:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Pyrophoric Solids:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Self-Heating Chemicals:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Chemicals Which, in Contact with Water, Emit Flammable Gases:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Oxidizing Liquids:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Oxidizing Solids:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Organic Peroxides:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
<tr>
<td>Corrosive to Metals:</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

LABEL SIGNAL WORD, HAZARD STATEMENTS, SYMBOLS AND PRECAUTIONARY STATEMENTS UNDER 29 CFR 1910.1200(f):

Please see the Note regarding product labeling in Section 16.
Hazard Statement(s): Flammable liquid and vapor. Toxic if inhaled. May be fatal if swallowed and enters airways. Harmful if swallowed. Causes skin and serious eye irritation. May cause respiratory irritation and drowsiness or dizziness.

Symbols: The following symbols are for all treatment ratios.

Precautionary Statement(s): Keep away from sparks and open flames. No smoking. Keep container tightly closed. Use only non-sparking tools. Ground/Bond container and receiving equipment. Use explosion-proof pumps when pumping. Take precautionary measures against static discharge. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves and eye protection. Store locked up and in cool, well ventilated place. KEEP OUT OF REACH OF CHILDREN.

Hazards Not Otherwise Classified: None

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

The specific chemical identity and exact concentration percentage has been withheld as a Trade Secret. Specific chemical information will be made available to health professionals in accordance with 29 CFR 1910.1200.

INGREDIENTS CLASSIFIED AS HEALTH HAZARDS

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Chemical Name</th>
<th>Common Name/Synonyms</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400</td>
<td>Petroleum Distillates</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>50 - 90</td>
</tr>
<tr>
<td></td>
<td>Hydroxy alkoxylate</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>4 - 10</td>
</tr>
<tr>
<td></td>
<td>Alkyl Nitrates</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>2 - 6</td>
</tr>
<tr>
<td></td>
<td>Naphthalene</td>
<td>Not available</td>
<td>91-20-3</td>
<td>0.05 – 0.2</td>
</tr>
</tbody>
</table>

Revised: May 30, 2015
Supersedes: April 1, 2015
POWER SERVICE DIESEL FUEL SUPPLEMENT +CETANE BOOST
### TREATMENT RATIO 1:1000

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name/Synonyms</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Distillates</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>40 - 90</td>
</tr>
<tr>
<td>Alkyl Nitrates</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>5 - 15</td>
</tr>
<tr>
<td>Aromatic Hydrocarbons</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>2 - 5</td>
</tr>
<tr>
<td>Hexan-1-ol, 2-ethyl</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>1 - 4</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>Not available</td>
<td>91-20-3</td>
<td>0.1 – 0.5</td>
</tr>
</tbody>
</table>

### TREATMENT RATIO 1:1500

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name/Synonyms</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Distillates</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>20 - 55</td>
</tr>
<tr>
<td>Alkyl Nitrates</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>10 – 20</td>
</tr>
<tr>
<td>Aromatic Hydrocarbons</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>3 - 8</td>
</tr>
<tr>
<td>Hexan-1-ol, 2-ethyl</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>2 – 5</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>Not available</td>
<td>91-20-3</td>
<td>0.2 – 0.9</td>
</tr>
</tbody>
</table>

### SECTION 4 - FIRST AID MEASURES

As a precaution, exposure to liquids, vapors, mists and fumes should be minimized.

**EYE CONTACT:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice.

**SKIN CONTACT:** Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs get medical advice/attention.

**INHALATION:** Remove person to fresh air and keep comfortable for breathing. Call a doctor.

**INGESTION:** If swallowed, IMMEDIATELY call a doctor. Do NOT induce vomiting.

### SECTION 5 - FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

**SPECIFIC HAZARDS:** Vapors are heavier than air and may travel along the ground to a distant ignition source and flash back. See Section 10 for Stability and Reactivity. **NOTE:** EMPTY CONTAINERS CONTAIN COMBUSTIBLE VAPORS THAT CAN CAUSE FLASH FIRES OR EXPLOSIONS. CONTAINERS ARE SINGLE-TRIP CONTAINERS AND SHOULD NOT BE USED FOR ANY REASON AFTER BEING EMPTIED. **DO NOT USE CUTTING TORCH**

Revised: May 30, 2015
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EQUIPMENT OR ANY OTHER FLAME OR OTHER SOURCES OF IGNITION ON ANY EMPTY CONTAINER.

PROTECTIVE EQUIPMENT AND PRECAUTIONS: Use standard protective equipment including self-contained breathing apparatus (SCBA).

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas. Eliminate all sources of ignition in the vicinity of the spill or released vapor. See Section 2 for Hazards Identification. See Section 4 for First Aid Measures. See Section 5 for Fire Fighting Information. See Section 8 for Personal Protective Equipment.

SPILL CONTAINMENT AND CLEAN-UP: Eliminate potential sources of ignition. Stop leak if it can be done without risk. Dike and contain spill. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly. A vapor suppressing foam may be used to reduce vapors. Local, state and federal laws and/or regulations may apply to releases and disposal of this material, as well as those materials and items employed in the clean-up releases. The user/responder will need to determine which local, state and federal laws and/or regulations are applicable. The National Response Center can be reached at 1-800-424-8802.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Avoid contact with eyes and skin. Use only with adequate ventilation. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Keep away from ignition sources such as heat, sparks, and flames. No smoking.

CONDITIONS FOR SAFE STORAGE: DO NOT USE OR STORE near heat, sparks, or flame. USE AND STORE ONLY IN A WELL-VENTILATED AREA. Handle containers with care. Keep container tightly closed when not in use. Store locked up.

STORAGE TEMPERATURE:

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Part Numbers:</th>
<th>Storage Temperature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400 Treatment Ratio</td>
<td>1016-06, 1016-09, 1025-06, 1025-12, 1080-06, 11016-06, 11016-09, 11025-06, 11025-12, 11041-04, 11080-06</td>
<td>-20°F to 104°F (-29°C to 40°C)</td>
</tr>
<tr>
<td>1:1,000 Treatment Ratio</td>
<td>1000, 1128-04, 1060-01</td>
<td>0°F to 104°F (-18°C to 40°C)</td>
</tr>
</tbody>
</table>
1:1,500 Treatment Ratio 1050-02, 1055-01, 1260-01 10°F to 104°F (-12°C to 40°C)

EMPTY CONTAINER WARNING: EMPTY CONTAINERS MAY CONTAIN COMBUSTIBLE VAPORS AND CAN BE DANGEROUS. SEE SECTION 5 FOR FIRE AND EXPLOSION HAZARD DATA.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>STEL</th>
<th>REL</th>
<th>NIOSH STEL</th>
<th>IDLH</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-41-4</td>
<td>100 ppm</td>
<td>20 ppm</td>
<td>not est.</td>
<td>100 ppm</td>
<td>125 ppm</td>
<td>800 ppm (LEL)</td>
<td>n/a</td>
</tr>
<tr>
<td>91-20-3</td>
<td>10 ppm</td>
<td>10 ppm</td>
<td>not est.</td>
<td>10 ppm</td>
<td>15 ppm</td>
<td>250 ppm</td>
<td>skin</td>
</tr>
<tr>
<td>n/a</td>
<td>500 ppm</td>
<td>not est.</td>
<td>not est.</td>
<td>not est.</td>
<td>not est.</td>
<td>not est.</td>
<td>n/a</td>
</tr>
<tr>
<td>98-82-8</td>
<td>50 ppm</td>
<td>50 ppm</td>
<td>not est.</td>
<td>50 ppm</td>
<td>not est.</td>
<td>900 ppm (LEL)</td>
<td>Skin</td>
</tr>
<tr>
<td>108-88-3</td>
<td>100 ppm</td>
<td>20 ppm</td>
<td>not est.</td>
<td>100 ppm</td>
<td>150 ppm</td>
<td>500 ppm</td>
<td>Skin</td>
</tr>
<tr>
<td>Proprietary</td>
<td>50 ppm</td>
<td>20 ppm</td>
<td>not est.</td>
<td>5 ppm</td>
<td>not est.</td>
<td>not est.</td>
<td>skin</td>
</tr>
</tbody>
</table>

ENGINEERING CONTROLS: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Local exhaust ventilation is recommended to control exposure.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

**Eyes and Face:** Eye protection such as safety glasses or chemical goggles is recommended if contact is likely.

**Skin:** Protective chemical/oil resistant gloves are recommended. Wear additional protective clothing as appropriate.

**Respiratory:** Wear a NIOSH/MSHA approved respirator as necessary.

**Specific Hygiene Measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Practice good housekeeping.

**NOTE:** These precautions are for room temperature handling.
### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>1:400 Treatment Ratio</th>
<th>1:1000 Treatment Ratio</th>
<th>1:1500 Treatment Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Liquid, brown</td>
<td>Liquid, brown</td>
<td>Liquid, brown</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Aromatic solvent</td>
<td>Aromatic solvent</td>
<td>Aromatic solvent</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>7 – 8 (slightly basic)</td>
<td>7 – 8 (slightly basic)</td>
<td>7 – 8 (slightly basic)</td>
</tr>
<tr>
<td><strong>Melting point/Freezing point</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Initial Boiling Point and Boiling Range</strong></td>
<td>300°F (149°C)</td>
<td>300°F (149°C)</td>
<td>300°F (149°C)</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>105°F (40.5°C)</td>
<td>116°F (46.6°C)</td>
<td>121°F (49.4°C)</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flammability</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Upper / lower Flammability or Explosive Limits</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>0.2 – 0.95</td>
<td>0.2 – 0.95</td>
<td>0.2 – 0.95</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>&gt;5.0</td>
<td>&gt;5.0</td>
<td>&gt;5.0</td>
</tr>
<tr>
<td><strong>Relative Density/Specific Gravity</strong> (at 60°F)</td>
<td>0.910</td>
<td>0.912</td>
<td>0.896</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Partition Coefficient; n-octanol / water</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Auto-ignition Temperature</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Not available</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Pour Point</strong></td>
<td>-55°F (-13°C)</td>
<td>-30°F (1.1°C)</td>
<td>-15°F (9.4°C)</td>
</tr>
</tbody>
</table>

### SECTION 10 - STABILITY AND REACTIVITY

**REACTIVITY:** see Incompatible Materials below

**CHEMICAL STABILITY:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**POSSIBILITY OF HAZARDOUS REACTION:** Hazardous polymerization will not occur.

**CONDITIONS TO AVOID:** Flames, high energy ignition sources, and elevated temperatures.

**INCOMPATIBLE MATERIALS:** May react with strong oxidizing agents, such as; chlorates, nitrates, peroxides, nitrogen oxides, sulfur oxides, etc.; alkanes; nitric acid; sulfuric acid; aluminum; brass; copper; reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon oxides, products of incomplete combustion.

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POWER SERVICE DIESEL FUEL SUPPLEMENT +CETANE BOOST
SECTION 11 - TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF EXPOSURE

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>INGESTION</th>
<th>INHALATION</th>
<th>SKIN CONTACT</th>
<th>EYE CONTACT</th>
<th>SKIN ABSORPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400 Treatment Ratio</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1:1000 Treatment Ratio</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1:1500 Treatment Ratio</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

SYMPTOMS RELATED TO PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS: Breathing of high vapor concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. The vapor or fumes from this material may cause respiratory irritation. Breathing this material at elevated concentrations causes central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors, or convulsions, loss of consciousness, coma or death.

DELAYED AND IMMEDIATE EFFECTS AND CHRONIC EFFECTS FROM SHORT- AND LONG-TERM EXPOSURE: Repeated skin exposure to a component of this product may cause irritation, even a burn; may cause a more severe response on covered skin, such as under clothing or gloves. Inhalation exposure to a component of this product has caused fetotoxicity in the presence of maternal toxicity in animals.

NUMERICAL MEASURES OF TOXICITY

Note: the information provided below are estimates; testing of the product is not available.

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Acute Oral Toxicity ($A_{\text{mix}}$ estimate)</th>
<th>Acute Dermal Toxicity ($A_{\text{mix}}$ estimate)</th>
<th>Acute Inhalation ($A_{\text{mix}}$ estimate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400 Treatment Ratio</td>
<td>Does not meet criteria</td>
<td>Does not meet criteria</td>
<td>7.10 (vapors)</td>
</tr>
<tr>
<td>1:1,000 Treatment Ratio</td>
<td>Does not meet criteria</td>
<td>Does not meet criteria</td>
<td>8.56 (vapors)</td>
</tr>
<tr>
<td>1:1,500 Treatment Ratio</td>
<td>Does not meet criteria</td>
<td>Does not meet criteria</td>
<td>7.48 (vapors)</td>
</tr>
</tbody>
</table>

SENSITIZATION: No information available.

MUTAGENICITY: No information available.

CARCINOGENICITY LISTINGS – the following chemicals are listed as indicated:
**Chemical List**

<table>
<thead>
<tr>
<th>Chemical</th>
<th>List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumene</td>
<td>IARC, NTP</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>IARC</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>IARC, NTP</td>
</tr>
</tbody>
</table>

**REPRODUCTIVE TOXICITY:** No information available.

**TERATOGENICITY/EMBRYOTOXICITY:** Hydroxy Alkoxylate has caused fetotoxicity with maternal toxicity. This product contains a component of a complex mixture (Xylenes (1330-20-7)) that has been shown to cause teratogenicity and/or embryotoxicity.

**SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE):** Respiratory tract irritation, drowsiness/dizziness.

**SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE):** No information available

**ASPIRATION HAZARD:** Aspiration hazard identified.

### SECTION 12 - ECOLOGICAL INFORMATION

**ECOTOXICITY:** This material is expected to be toxic to aquatic organisms.

**PERSISTENCE AND DEGRADABILITY:** No information available.

**BIOACCUMULATIVE POTENTIAL:** No information available.

**MOBILITY IN SOIL:** No information available.

**OTHER ADVERSE EFFECTS:** No information available.

### SECTION 13 - DISPOSAL CONSIDERATIONS

**RCRA Information:** Disposal of unused product may be subject to RCRA hazardous waste regulations (40 CFR Part 261). Disposal of the used product may also be regulated as hazardous waste due to resulting mixture characteristics, mixture components or product use. Such changes to the product may result in different and/or additional hazardous waste codes. Potential RCRA waste code based on the product as shipped: D001 IGNITABILITY

State or local laws may impose additional regulatory requirements regarding disposal. *Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.*

**EMPTY CONTAINER WARNING:** EMPTY CONTAINERS MAY CONTAIN COMBUSTIBLE VAPORS AND CAN BE DANGEROUS. SEE SECTION 5 FOR FIRE AND EXPLOSION
HAZARD DATA. Dispose or recycle empty containers appropriately per local, state and federal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

The following part numbers are not regulated by DOT:

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400</td>
<td>1016-06, 1016-09, 1025-06, 1025-09, 1025-12, 1080-06, 11016-06, 11016-09, 11025-06, 11025-12, 1080-06</td>
</tr>
<tr>
<td>1:1,000</td>
<td>1128-04</td>
</tr>
<tr>
<td>1:1,500</td>
<td>1050-02, 1055-01</td>
</tr>
</tbody>
</table>

The following part numbers are regulated by DOT:

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1,000</td>
<td>1060-01</td>
</tr>
</tbody>
</table>

**PROPER SHIPPING NAME:** Combustible Liquid, N.O.S., (Petroleum Distillates) Marine Pollutant (2-Ethylhexyl Nitrate)

**HAZARD CLASS:** Combustible Liquid

**I.D. NUMBER:** NA 1993

**PACKING GROUP:** III

**PLACARDING:** Combustible Liquid

**MARINE POLLUTANT:** Yes

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1,000</td>
<td>1000</td>
</tr>
</tbody>
</table>

**PROPER SHIPPING NAME:** Combustible Liquid, N.O.S., (Petroleum Distillates) Marine Pollutant (2-Ethylhexyl Nitrate) RQ (Xylene, Naphthalene)

**HAZARD CLASS:** Combustible Liquid

**I.D. NUMBER:** NA 1993

**PACKING GROUP:** III

**PLACARDING:** Combustible Liquid

**MARINE POLLUTANT:** Yes

**PRODUCT RQ:** 100 lbs. (45.45 kg) – Xylene, Naphthalene

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:1,500</td>
<td>1260-01</td>
</tr>
</tbody>
</table>

**PROPER SHIPPING NAME:** Combustible Liquid, N.O.S., (Petroleum Distillates) Marine Pollutant (2-Ethylhexyl Nitrate)

**HAZARD CLASS:** Combustible Liquid

**I.D. NUMBER:** NA 1993

**PACKING GROUP:** III

**PLACARDING:** Combustible Liquid

**MARINE POLLUTANT:** Yes
SECTION 15 - REGULATORY INFORMATION

§14(a) Consumer Product Safety Act General Certificate of Conformity

Power Service Products, Inc. certifies that this product meets the statutory and regulatory requirements of the US Consumer Products Safety Act, the Federal Hazardous Substances Act, and the Poison Prevention Packaging Act of 1970, as applicable. The Power Service products are manufactured in the United States in Weatherford, Texas, unless otherwise indicated on the product label. The product manufacture lot code is stamped on the product container. This Certification is based upon a reasonable testing program conducted by Power Service Products, Inc. which includes a quality control program incorporating, as necessary, confirmation of compliance by component suppliers. Third-party testing is not required to certify compliance. Further details may be obtained by contacting the Power Service Products, Inc. EHS Manager at 1-800-643-9089.


TSCA STATUS:
All chemical substances found in this product comply with the Toxic Substances Control Act inventory reporting requirements.

EPA SARA TITLE III CHEMICAL LISTINGS:

Section 302 Extremely Hazardous Substances: None

Sections 311/312 Hazard Class:
Acute Health Effects: Yes Sudden Release of Pressure Hazard: No
Chronic Health Effects: Yes Reactivity Hazard: No
Fire Hazard: Yes

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION) RATING:
HEALTH: 2
FIRE: 2
REACTIVITY: 0

Section 313:
Specific chemical information is being withheld as a Trade Secret. The following chemicals subject to the reporting requirements of EPCRA Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (40 CFR Part 372) may be present in this product at a concentration that does not exceed the specified upper weight percentage.

<table>
<thead>
<tr>
<th>Treatment Ratio</th>
<th>CAS Number</th>
<th>Chemical Name</th>
<th>Max %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:400 Treatment Ratio</td>
<td>100-41-4</td>
<td>Ethylbenzene</td>
<td>24.0</td>
</tr>
<tr>
<td>NA</td>
<td>NA</td>
<td>Glycol Ether Category</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Revised: May 30, 2015
Supersedes: April 1, 2015
POWER SERVICE DIESEL FUEL SUPPLEMENT +CETANE BOOST

Page 11 of 13
State or local laws may impose additional regulatory requirements for components of this material. It is the responsibility solely of the Employer to maintain compliance with State and Local reporting.

This product contains a chemical known to the state of California to cause cancer and/or birth defects or other reproductive harm: ethylbenzene, toluene, cumene, naphthalene.

SECTION 16 – OTHER INFORMATION

DATE OF PREPARATION / REVISION: May 30, 2015

NOTE regarding product labeling: The OSHA Hazard Communication Standard applies to hazardous chemicals known to be present in the workplace. However, the labeling and Safety Data Sheet requirements do not apply to consumer products when they are used in the workplace for the purposes intended by the manufacturer and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers when used for the intended purpose. Power Service Products intends for product packaged in 1 gallon or smaller containers to be used by consumers and has labeled those containers as required under the Consumer Product Safety Commission regulations. Power Service Products intends for product packaged in containers larger than 1 gallon to be used in the workplace and has labeled those products as required by the OSHA Hazard Communication Standard. The Consumer Product Safety Commission and OSHA Hazard Communication Standard labeling requirements are different and variations between the consumer and industrial labels may occur. It is the employer’s responsibility to purchase the appropriate product for use in the workplace.

The information contained herein is offered in good faith and is believed to be accurate based on the data available to us as of the date of SDS preparation. The information in this document applies to this specific product as supplied. It may not be appropriate for this product if the product is used in combination with other materials. The information in this document is not intended to constitute product performance information. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product. No statement shall be construed as an endorsement of any product or process. The recommended
industrial hygiene and safe handling procedures are believed to be valid in the context of the intended use as described in product labeling. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. You are urged to obtain material safety data sheets for all products you buy, process, use or distribute, and are encouraged to advise those who may come in contact with such products of the information contained therein. Regulatory requirements are subject to change and may differ between locations. It is the buyer's/user’s responsibility to ensure that his activities comply with all federal, state, provincial or local laws. No warranty or guarantee is expressed or implied with respect to this product, the accuracy and sufficiency of the data or recommendations herein, or the results to be obtained from the use of this product. IN NO EVENT SHALL POWER SERVICE PRODUCTS, INC. BE LIABLE FOR ANY LOSS, CLAIM, DAMAGE OR LIABILITY OF ANY KIND, WHICH MAY ARISE FROM OR IN CONNECTION WITH THE INFORMATION CONTAINED IN THIS DOCUMENT OR FROM THE USE, HANDLING OR STORAGE OF THE PRODUCT BY THE BUYER/USER, WHETHER DIRECT, INDIRECT, OR CONSEQUENTIAL, OR FOR ANY CLAIM BY ANY THIRD PARTY, BEYOND THE PURCHASE PRICE OR REPLACEMENT OF THE PRODUCT IN CONNECTION WITH WHICH SUCH LOSS, CLAIM, DAMAGE OR LIABILITY AROSE.

THE FOREGOING LIMITATIONS APPLY REGARDLESS OF THE CAUSES OR CIRCUMSTANCES GIVING RISE TO SUCH LOSS, CLAIM, DAMAGE OR LIABILITY, EVEN IF SUCH LOSS, CLAIM, DAMAGE, OR LIABILITY IS BASED ON NEGLIGENCE OR OTHER TORTS OR BREACH OF CONTRACT.
Portland Cement Based Concrete Products

MATERIAL SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329

Emergency Telephone Number
(770) 216-9580

Information Telephone Number
(770) 216-9580

MSDS J1
Revision: Aug-13

QUIKRETE® Product Name  Code #
CONCRETE MIX 1101
FENCE POST MIX 1005
FIBER-REINFORCED CONCRETE MIX 1006
CRACK RESISTANT CONCRETE MIX 1006-80
QUIKRETE 5000 CONCRETE MIX 1007
QUIKRETE 6000 CONCRETE MIX 1007
LIGHTWEIGHT CONCRETE MIX 1008
HANDICRETE CONCRETE MIX 1141-59, -60, -80
MAXIMUM YIELD CONCRETE MIX 1100-80
B-CRETE 1101-81
PRO-FINISH QUIKRETE 5000 1007-85
BASIC CONCRETE MIX 1015
RIP RAP 1129
ALL-STAR CONCRETE MIX 1121
ALL-STAR CRACK RESISTANT CONCRETE MIX 1470-03
ALL-STAR 5000 CONCRETE MIX 1470-01
RED-E-CRETE CONCRETE MIX 1101-91, -87; 1141-62, -63, -92, -93
RIP RAP SCRIM 1134-80
FIBER REINFORCED DECK MIX 1251-80, -81
PRO-FINISH CRACK RESISTANT CONCRETE MIX 1006-68
COUNTERTOP MIX 1106-80
RITEMIX CONCRETE 1171-60
GREEN CONCRETE MIX 1101-63, -73
FLOWCRETE 5000 (MIX 801) 8080026/NR80026

Product Use: Portland cement-based, aggregated products for general construction

SECTION II - HAZARD IDENTIFICATION

Route(s) of Entry: Inhalation, Skin, Ingestion
Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.

Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth (limestone, marl, sand, shale, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful, elements may be found during chemical analysis. Under ASTM standards, Portland cement may contain 0.75 % insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings:  
NTP: Known carcinogen  
OSHA: Not listed as a carcinogen  
IARC Monographs: Group 1 Carcinogen  
California Proposition 65: Known carcinogen

NTP: The National Toxicology Program, in its “Ninth Report on Carcinogens” (released May 15, 2000) concluded that “Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is known to be a human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown et al., 1997; Hind et al., 1997)

IARC: The International Agency for Research on Cancer (“IARC”) concluded that there was “sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources”, and that there is “sufficient evidence in experimental animals for the carcinogenicity of quartz or cristobalite.” The overall IARC evaluation was that “crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).” The IARC evaluation noted that “carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carinogenic Risks to Humans, Volume 68, “Silica, Some Silicates.” (1997)

Signs and Symptoms of Exposure: Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, Tuberculosis and possibly increased incidence of kidney lesions.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. (May contain trace (<0.05 %) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals)
**Medical Conditions Generally Aggravated by Exposure:** Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.

### SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>CAS No.</th>
<th>%</th>
<th>PEL (OSHA) mg/M³</th>
<th>TLV (ACGIH) mg/M³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement</td>
<td>65997-15-1</td>
<td>10-30</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Lime</td>
<td>01305-62-0</td>
<td>0-5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Silica Sand, crystalline</td>
<td>14808-60-7</td>
<td>70-90</td>
<td>10</td>
<td>0.025 (respirable)</td>
</tr>
</tbody>
</table>

May contain one or more of the following ingredients:

- Amorphous Silica (From fly Ash) 07631-86-9 80 10
- Alumina (From Fly Ash) 01344-28-1 5 5
- Limestone Dust 01317-65-3 5 5
- Calcium Sulfate 10101-41-4 or 13397-24-5 5 5

**Other Limits:** National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration=0.05 mg/M³ (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica.

### SECTION IV – First Aid Measures

**Eyes:** Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

**Skin:** Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.

**Inhalation:** Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.

**Ingestion:** Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

### SECTION V - FIRE AND EXPLOSION HAZARD DATA

**Flammability:** Noncombustible and not explosive.

**Auto-ignition Temperature:** Not Applicable

**Flash Points:** Not Applicable

### SECTION VI – ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Use adequate ventilation to keep exposure to airborne contaminants below the exposure limit.
SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.

SECTION VIII – EXPOSURE CONTROL MEASURES

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Exposure Limits: Consult local authorities for acceptable exposure limits

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder; Some products contain coarse aggregates.
Specific Gravity: 2.6 to 3.15
Boiling Point: >2700°F
Vapor Density: Not Available
Solubility in Water: Slight
pH: 13 (10%)
Melting Point: >2700°F
Vapor Pressure: Not Available
Evaporation Rate: Not Available
Odor: Not Available
Volatile Organic Content (VOC): 0 g/L

SECTION X - REACTIVITY DATA

Stability: Stable.

Incompatibility (Materials to Avoid): Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

Hazardous Decomposition or By-products: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

Hazardous Polymerization: Will Not Occur.

Condition to Avoid: Keep dry until used to preserve product utility.

SECTION XI – TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, Ingestion

Toxicity to Animals:
LD50: Not Available
LC50: Not Available

Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.

Special Remarks on Toxicity: Not Available
SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity: Not Available
BOD5 and COD: Not Available
Products of Biodegradation: Not available
Toxicity of the Products of Biodegradation: Not available
Special Remarks on the Products of Biodegradation: Not available

SECTION XIII – DISPOSAL CONSIDERATIONS

Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117 & 302).

SECTION XIV – TRANSPORT INFORMATION

Not hazardous under U.S. DOT and TDG regulations.

SECTION XV – OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers’ hazard communication program
SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects
SARA (Title III) Section 313: Not subject to reporting requirements
TSCA (May 1997): Some substances are on the TSCA inventory list
Federal Hazardous Substances Act: Is a hazardous substance subject to statues promulgated under the subject act
California Regulation: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
Canadian Environmental Protection Act: Not listed
Canadian WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada’s Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI – OTHER INFORMATION

HMIS-III: Health – 0 = No significant health risk
1 = Irritation or minor reversible injury possible
2 = Temporary or minor injury possible
3 = Major injury possible unless prompt action is taken
4 = Life threatening, major or permanent damage possible

Flammability- 0 = Material will not burn
1 = Material must be preheated before ignition will occur
2 = Material must be exposed to high temperatures before ignition
### Abbreviations:

- **ACGIH**: American Conference of Government Industrial Hygienists
- **CAS**: Chemical Abstract Service
- **CERCLA**: Comprehensive Environmental Response, Compensation and Liability Act
- **CFR**: Code of Federal Regulations
- **CPR**: Controlled Products Regulations (Canada)
- **DOT**: Department of Transportation
- **IARC**: International Agency for Research
- **MSHA**: Mine Safety and Health Administration
- **NIOSH**: National Institute for Occupational Safety and Health
- **NTP**: National Toxicity Program
- **OSHA**: Occupational Safety and Health Administration
- **PEL**: Permissible Exposure Limit
- **RCRA**: Resource Conservation and Recovery Act
- **SARA**: Superfund Amendments and Reauthorization Act
- **TLV**: Threshold Limit Value
- **TWA**: Time-weighted Average
- **WHMIS**: Workplace Hazardous Material Information System

### Last Updated: August 23, 2013

**NOTE:** The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products. END OF MSDS.
Portland Cement Based Repair Materials

MATERIAL SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329

Emergency Telephone Number
(770) 216-9580

Information Telephone Number
(770) 216-9580

MSDS J5
Revision: Aug-11

QUIKRETE® Product Name Code #
FOUNDATION COATING 1215
SAND (TOPPING) MIX 1103
SAND MIX – TYPE II 1103-88, NR83003
ALL STAR SAND MIX 1123
HANDICRETE SAND MIX 1143
RITE MIX SAND MIX 1173
DECK MUD 1548-55
POWERLITE NR3004
REVETMENT - RIP RAP BURLAP NR83994
3:1 SAND/CEMENT - BURLAP NR83999
VINYL CONCRETE PATCHER 1133, 1132
BONDED TOPPING MIX 1133-18, -04

Product Use: Portland cement-based materials for repairing Concrete

SECTION II - HAZARD IDENTIFICATION

Route(s) of Entry: Inhalation, Skin, Ingestion
Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.
Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.
Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth (limestone, marl, sand, shale, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful, elements may be found during chemical analysis. Under ASTM standards, Portland cement may contain 0.75 % insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and possibly cancer. There is evidence that exposure to respirable silica or the
disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

**Carcinogenicity Listings:**

<table>
<thead>
<tr>
<th>Source</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTP</td>
<td>Known carcinogen</td>
</tr>
<tr>
<td>OSHA</td>
<td>Not listed as a carcinogen</td>
</tr>
<tr>
<td>IARC Monographs</td>
<td>Group 1 Carcinogen</td>
</tr>
<tr>
<td>California Proposition 65</td>
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NTP: The National Toxicology Program, in its “Ninth Report on Carcinogens” (released May 15, 2000) concluded that “Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is known to be a human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown *et al.*, 1997; Hind *et al.*, 1997)

IARC: The International Agency for Research on Cancer (“IARC”) concluded that there was “sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources”, and that there is “sufficient evidence in experimental animals for the carcinogenicity of quartz or cristobalite.” The overall IARC evaluation was that “crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).” The IARC evaluation noted that “carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carcinogenic Risks to Humans, Volume 68, “Silica, Some Silicates.” (1997)

**Signs and Symptoms of Exposure:** Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

**Medical Conditions Generally Aggravated by Exposure:** Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, Tuberculosis and possibly increased incidence of kidney lesions.

**Chronic Exposure:** Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. (May contain trace (<0.05 %) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals)

**Medical Conditions Generally Aggravated by Exposure:** Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.
Hazardous Components | CAS No. | PEL (OSHA) | TLV (ACGIH)  
---|---|---|--- 
Portland Cement | 65997-15-1 | 5 mg/M^3 | 5 mg/M^3 
Silica Sand, crystalline | 14808-60-7 | 10%SiO_2+2 | 0.05 (respirable) 

May contain one or more of the following ingredients:

- Lime: 01305-62-0 | 5 |
- Amorphous Silica (From fly Ash): 07631-86-9 | 80%SiO_2+2 |
- Alumina (From Fly Ash): 01344-28-1 | 5 |
- Limestone Dust: 01317-65-3 | 5 |
- Calcium Sulfate: 10101-41-4 or 13397-24-5 | 5 |

**Other Limits:** National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration=0.05 mg/M^3 (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica.

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### SECTION IV – First Aid Measures

**Eyes:** Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

**Skin:** Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.

**Inhalation:** Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.

**Ingestion:** Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

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### SECTION V - FIRE AND EXPLOSION HAZARD DATA

**Flammability:** Noncombustible and not explosive.

**Auto-ignition Temperature:** Not Applicable

**Flash Points:** Not Applicable

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### SECTION VI – ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Avoid washing into waterways. Use adequate ventilation to keep exposure to airborne contaminants below the exposure limit.

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### SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.
SECTION VIII – EXPOSURE CONTROL MEASURES

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Exposure Limits: Consult local authorities for acceptable exposure limits

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder; Some products contain coarse aggregates. QUIKRETE Vinyl Concrete Patcher is available in white.
Specific Gravity: 2.6 to 3.15
Melting Point: >2700°F
Boiling Point: >2700°F
Vapor Pressure: Not Available
Vapor Density: Not Available
pH of Wet Product: 12+
Solubility in Water: Slight
Odor: Not Available

SECTION X - REACTIVITY DATA

Stability: Stable.
Incompatibility (Materials to Avoid): Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires
Hazardous Decomposition or By-products: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.
Hazardous Polymerization: Will Not Occur.
Condition to Avoid: Keep dry until used to preserve product utility.

SECTION XI – TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, Ingestion
Toxicity to Animals:
    LD50: Not Available
    LC50: Not Available
Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.
Special Remarks on Toxicity: Not Available

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity: Not Available
BOD5 and COD: Not Available
Products of Biodegradation: Not available
SECTION XIII – DISPOSAL CONSIDERATIONS

Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302).

SECTION XIV – TRANSPORT INFORMATION

Not hazardous under U.S. DOT and TDG regulations.

SECTION XV – OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers’ hazard communication program
SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects
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Federal Hazardous Substances Act: Is a hazardous substance subject to statues promulgated under the subject act
Canadian Environmental Protection Act: Not listed
Canadian WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada’s Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI – OTHER INFORMATION

HMIS-III: Health – 0 = No significant health risk
1 = Irritation or minor reversible injury possible
2 = Temporary or minor injury possible
3 = Major injury possible unless prompt action is taken
4 = Life threatening, major or permanent damage possible
Flammability- 0 = Material will not burn
1 = Material must be preheated before ignition will occur
2 = Material must be exposed to high temperatures before ignition
3 = Material capable of ignition under normal temperatures
4 = Flammable gases or very volatile liquids; may ignite spontaneously
Physical Hazard- 0 = Material is normally stable, even under fire conditions
1 = Material normally stable but may become unstable at high temps
2 = Materials that are unstable and may undergo react at room temp
3 = Materials that may form explosive mixtures with water
4 = Materials that are readily capable of explosive water reaction

Abbreviations:
ACGIH American Conference of Government Industrial Hygienists
### Material Safety Data Sheet

#### Cement & Concrete Products™

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation and Liability Act</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
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<tr>
<td>CPR</td>
<td>Controlled Products Regulations (Canada)</td>
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<td>DOT</td>
<td>Department of Transportation</td>
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<td>International Agency for Research</td>
</tr>
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<td>MSHA</td>
<td>Mine Safety and Health Administration</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicity Program</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
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<tr>
<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
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<td>Superfund Amendments and Reauthorization Act</td>
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<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time-weighted Average</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Material Information System</td>
</tr>
</tbody>
</table>

Revision #10-01, supersedes all previous revisions
Created: 10/25/2006
Last Updated: August 29, 2011

**NOTE:** The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.
1.0 **Product Information and Material Identification and Use**

- **Manufacturer:** PLM Corporation
- **Address:** 7424 Bessemer Ave, Cleveland, Ohio 44127
- **Phone:** 216-771-8555 or 800-387-1306
- **Material name:** High Performance Cold Patch
- **Material use:** Repairing exterior asphalt pavement, driveways, and parking lots
- **Trade/Synonym Name:** “HIGH PERFORMANCE CHUCKHOLE PATCH”
- **Classification:** Flammable solid – toxic material
- **TDG Classification:** Not regulated

2.0 **Hazardous Ingredients Defined In HPA**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS Number</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limestone</td>
<td>1317-65-3</td>
<td>91-97</td>
</tr>
<tr>
<td>Petroleum Asphalt Base</td>
<td>8052-42-4</td>
<td>2-8</td>
</tr>
<tr>
<td>Petroleum Solvent</td>
<td>68476-33-2</td>
<td>1-3</td>
</tr>
</tbody>
</table>

3.0 **Physical Data for Material**

- **Physical State:** Granular solid
- **Odor and Appearance:** Petroleum odor, black tarry appearance
- **Odor Threshold:** 1 ppm
- **Specific Gravity:** N/A
- **Vapor Pressure:** N/A
- **Vapor Density:** N/A
- **Evaporation Rate:** N/A
- **Boiling Point:** 295° C - 705° C
- **Freezing Point:** N/A
- **PH:** N/A
- **Percent Volatile (by vol.):** 1% (approximately)
- **Coefficient of water/oil distribution:** Insoluble in water

4.0 **Fire and Explosion Data**

- **Conditions of Flammability:** Heating to flash point and external ignition source
- **Means of Extinction:** Dry chemical, CO, water/fog spray
- **Do not direct water stream into burning material.**
- **Flashpoint Method:** 350° F COC
- **Upper/Lower Flammable Limit:** N/A
- **Auto-Ignition Temperature:** N/A
- **Hazardous Combustion Products:** Carbon monoxide, carbon dioxide, smoke, and oxides of sulphur and nitrogen
- **Sensitivity to Mechanical Impact:** Not sensitive
- **Sensitivity to Static Discharge:** Fumes from hot material may ignite

5.0 **Reactivity Data**

- **Chemical Stability:** Stable
- **Incompatibility:** Avoid strong oxidizing materials
- **Reactivity conditions:** Non-reactive
- **Hazardous decomposition of by-products:** Carbon dioxide, carbon monoxide, aldehydes, and other compounds may form upon combustion
- **Hazardous polymerization:** Will not occur

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This data is offered as good faith and not as product specifications. No warranty is expressed or implied is hereby made. Recommended industrial hygiene and safe handling are believed to be valid in the context of the intended use as described. It is incumbent upon each user to evaluate the specific circumstances and to determine whether recommendations are appropriate.
Material Safety Data Sheet
High Performance Cold Patch
date prepared: 01-02-02 by PLM tech dept.

6.0 Toxicological Properties

Primary Routes of Entry: Skin contact, eye contact, and inhalation
Effects of Acute Exposure to Fumes: Headache, dizziness, nausea, and irritation of skin, eyes, and upper respiratory tract
Effects of Chronic Exposure to Material: Repeated exposure to fumes may cause liver or kidney damage, and skin dermatitis
Exposure Limits: TWAEV Asphalt fumes-5mg/m3 H2S fumes-14mg/m3
Sensitization to Material: N/A
Carcinogenicity: Not listed by IARC or ACGIH as carcinogen
Teratogenicity: N/A
Reproductive Toxicity: N/A
Mutagenicity: N/A
Synergistic Material: N/A

7.0 Preventative Measures

Personal Protective Equipment: Gloves (oil-impervious type), Chemical resistant safety goggles, Full-face organic vapor respirator if fumes exceed limits. Clothing should be long sleeve shirts, cuffed long pants, or coveralls.
Engineering Controls: Provide sufficient ventilation in confined or enclosed areas. Use explosion-proof local exhaust as required to maintain allowable limits of fumes.
Leak and Spill Procedure: Contain spill. Remove all sources of ignition. Do not flush to sewers. Shovel into drums for re-use or disposal.
Waste Disposal: Dispose of material to approved landfill or to licensed reclaimer in accordance with local requirements.
Handling Procedures and Equipment: DO NOT HEAT MATERIAL for use. Use only in well-ventilated areas. Keep away from ignition sources. Use electrically grounded containers or equipment to prevent static.
Storage Requirements: Store in well-ventilated areas in closed containers away from ignition sources and strong oxidizing agents.

8.0 First Aid Measures

Inhalation: Evacuate to fresh air. Apply cardiopulmonary resuscitation or oxygen if required. Seek medical assistance if required.
Skin Contact: First wash with soap and water. Then if necessary seek medical assistance.
Eye Contact: Flush with water for at least 15 minutes. Seek medical attention if irritation persists.
Ingestion: Not expected, but if so, drink 25ml of water. Do not induce vomiting. Obtain medical attention.
Material Data Safety Sheet

JOHN DEERE PRODUCT NAME: Hy-Gard Transmission and Hydraulic Oil

DATA SHEET NO: 8503-40,100
LATEST REVISION DATE: 15 Aug. 1999
DEERE CODE: Y3, Y38, XN, Y4
JDM PART NO: AR69444, AR69445,
TY6238, TY6354, TY22028,
TY22062, TY22077, TY22078,
TY22079, TY22080, TY22092,
TY24496, TY24761
Part Nos. TY6237 TY6278 End 12/99

----------------------------- SECTION I - PRODUCT IDENTIFICATION -----------------------------

CHEMICAL NAME AND SYNONYMS: Lubricating Oil; Hydraulic Fluid; J20C
CHEMICAL FAMILY: Hydrocarbon
FORMULA: Complex

----------------------------- SECTION II - HAZARDOUS INGREDIENTS -----------------------------

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>PERCENT</th>
<th>TLV/PEL</th>
<th>V.P.</th>
<th>CAS.#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent refined, hydrotreated, heavy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>paraffinic distillate</td>
<td>50-60</td>
<td>5 mg/m³*</td>
<td>-</td>
<td>64742547</td>
</tr>
<tr>
<td>Solvent refined, hydrotreated, middle</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>distillate</td>
<td>0-25</td>
<td>5 mg/m³*</td>
<td>-</td>
<td>64742467</td>
</tr>
<tr>
<td>Severely hydrotreated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>light naphthenic distillate</td>
<td>0-25</td>
<td>5 mg/m³*</td>
<td>-</td>
<td>64742536</td>
</tr>
<tr>
<td>Polymeric additive in oil (poly-methacrylate)</td>
<td>10-15</td>
<td>None</td>
<td>-</td>
<td>None</td>
</tr>
<tr>
<td>Additive containing zinc dialkyl dithiophosphate</td>
<td>5-6</td>
<td>None</td>
<td>-</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

*for oil mists

----------------------------- SECTION III - PHYSICAL DATA -----------------------------

BOILING POINT: N.A.
% VOLATILE VOLUME: N.A.
VAPOR DENSITY: N.A.
APPEARANCE/ODOR: dark amber/slight odor

| SP. GRAVITY (WATER=1) | 0.89     |
| EVAPORATION RATE     | N.A.     |
| SOLUBILITY IN WATER  | Insoluble|
| N.A. - not available |

----------------------------- SECTION IV - FIRE & EXPLOSION HAZARD DATA -----------------------------

FLASH POINT: 390°F C.O.C.
EXTINGUISHING MEDIA: Water fog, foam, dry chemical, carbon dioxide, or halogenated agents.
SPECIAL FIRE FIGHTING PROCEDURES: Do not use a direct stream of water. Product will float and can be reignited on surface of water. Cool fire exposed containers with water. Use NIOSH approved self-contained breathing apparatus.
UNUSUAL FIRE & EXPLOSION HAZARDS: None
SECTION V - HEALTH HAZARD DATA

EXPOSURE LIMIT: See Section II - Hazardous Ingredients

EFFECTS OF OVEREXPOSURE: Exposure to vapors or mists of this product may cause mild upper respiratory tract irritation. Prolonged or repeated contact may cause various skin disorders such as dermatitis, oil acne, or folliculitis. Eye contact is minimally irritating. Effects of ingestion are expected to be relatively non-toxic. Exposure to product may aggravate preexisting skin and respiratory conditions.

EMERGENCY & FIRST AID: Eyes - flush with water 15 minutes. Skin - remove contaminated clothing; wash skin with soap and water; if material is injected under the skin, do not wait for symptoms to develop - get medical attention promptly to prevent serious damage. Inhalation - remove victim to fresh air and provide oxygen if breathing is difficult. Ingestion - do NOT induce vomiting. In all cases seek medical attention.

SECTION VI - REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY: Avoid open flame, and oxidizing materials

HAZARDOUS POLYMERIZATION: Will not occur

DECOMPOSITION PRODUCTS: Dependent on combustion conditions. A complex mixture of airborne solid, liquid, and gas will evolve when this material undergoes pyrolysis or combustion. Oxides of carbon, sulfur, phosphorus, and other unidentified organic compounds may be formed.

SECTION VII - SPILL OR LEAK PROCEDURE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dike and contain. Use vacuum or an absorbent such as clay or sand to pick up. Flush area with water to remove trace residue. NOTE: This product is classified as an oil under the Clean Water Act. Spills, entering surface waters or any watercourse or sewer leading to surface waters, must be reported to the National Response Center 800-424-9802.

WASTE DISPOSAL METHOD: In accord with federal, state, and local regulations

SECTION VIII - PROTECTIVE EQUIPMENT INFORMATION

VENTILATION: Local exhaust to keep TLV/PEL below acceptable levels

RESPIRATOR: NIOSH approved as needed

EYE WEAR: Recommended

GLOVES: Recommended to minimize skin contact

SECTION IX - SPECIAL PRECAUTIONS

Minimize skin contact. Wash with soap and water before eating, smoking, or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated articles including shoes that cannot be cleaned. Store in a cool, dry place with adequate ventilation. Keep away from open flames. Keep away from children.

SECTION X - DATA PREPARATION

NAME: T. M. Snyder, CIH
TITLE: Industrial Hygienist
SIGNATURE: DATE: October 7, 1999

The information contained herein is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendee assumes the risk in use of the material.
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: John Deere Cool Gard II (Concentrate)  
(TY26573, TY26574)

Product description: Ethylene Glycol based Antifreeze/Coolant

MANUFACTURER:                  EMERGENCY TELEPHONE NUMBERS:
Northland Products Company     Chemtrec: 1-800-424-9300
1000 Rainbow Drive
Waterloo, IA 50704
319-234-5585, 1-800-772-1724

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>wt. Percent</th>
<th>CAS Registry #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monoethylene Glycol</td>
<td>&gt; 90</td>
<td>000107-21-1</td>
</tr>
<tr>
<td>Diethylene Glycol</td>
<td>5 max</td>
<td>000111-46-6</td>
</tr>
<tr>
<td>Proprietary Inhibitors</td>
<td>1-5</td>
<td>Mixture</td>
</tr>
<tr>
<td>Water</td>
<td>3 max</td>
<td>007732-18-5</td>
</tr>
</tbody>
</table>

3. HAZARD IDENTIFICATION

Emergency Overview:
Liquid, dyed golden with a mild odor. Excessive exposure may cause irritation to the upper respiratory tract. Ingestion of very large amounts of Ethylene Glycol may cause birth defects. Exposure through inhalation and skin contact did not cause birth defects in animal reproduction. In-vitro (test tube) and animal mutagenicity tests have been negative. Exposure should be minimized.

POTENTIAL HEALTH EFFECTS:

INHALATION:
Vapors are minimal under normal conditions but should be avoided, concentrations may reach levels that could cause irritation.

EYE CONTACT:
May cause slight temporary eye irritation. Corneal injury is unlikely. Vapors or mists may irritate eyes.

SKIN CONTACT:
Potentially irritating to the skin (irritant, Sensitizer).

INGESTION:
Excessive exposure may cause central nervous system effects, cardiopulmonary effects, and kidney failure. Single dose oral toxicity is moderate. Single dose oral LD50 (Rat) Acute=4700ppm, (Hamster) Acute=12565ppm. Amounts ingested incidental to normal handling are not likely to cause injury; however ingestion to larger amounts could cause serious injury, even death.
3. **HAZARD IDENTIFICATION** (Continued)

**OTHER:**

Excessive exposure may cause irritation to upper respiratory tract. Observations in long term high dose animal studies with ethylene glycol and diethylene glycol include bladder stones, kidney and liver effects and deposition of calcium salts in various tissues. Ethylene glycol did not cause cancer in long term animal studies. Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the only way to produce birth defects. Birth defects are unlikely from exposure to diethylene glycol. Results of in-vitro mutagenicity tests have been negative. Results of mutagenicity tests in animals have also been negative.

**Hazardous Material Identification System (HMIS):**
Health-2, Flammability-1, Reactivity-0 (Based on components)

4. **FIRST AID MEASURES**

**INHALATION:**
Remove the victim from the area to fresh air. Call a physician. Give oxygen if victim is breathing hard.

**EYE CONTACT:**
Flush eyes with large amounts of water immediately for 15 minutes or until irritation subsides. If irritation persists, get medical attention.

**SKIN CONTACT:**
Wash affected areas thoroughly with soap and water. Remove contaminated clothing and wash them before wearing again. Call a physician if irritation persists.

**INGESTION:**
If swallowed, IMMEDIATELY contact a poison control center, emergency treatment center or a physician. Never give anything by mouth to an unconscious person.

**NOTE TO DOCTOR:**
Supportive care. Treatment based on judgement of the physician in response to reactions of the patient. In treatment of intoxication, the use of ethanol, hemodialysis and intravenous fluids to control acidosis should be considered.

5. **FIRE FIGHTING MEASURES**

Flash point: 248°F Minimum (COC)
Flammable limits: Upper=15.3%, Lower=3.2%
Autoignition Temperature: 442°F, (228°C) approximately
5. FIRE FIGHTING MEASURES (Continued)

GENERAL HAZARD:
No hazards under normal conditions; however, engine components can be at temperatures above the flash, fire and autoignition point. Avoid spills in the engine compartment.

FIRE FIGHTING INSTRUCTIONS:
Either allow fire to burn out under controlled conditions or extinguish with foam, CO₂, or dry chemical. Try to cover liquid spills with foam. Shut off fuel to fire if possible to do so without hazard.

FIRE FIGHTING EQUIPMENT:
NIOSH approved self-contained breathing apparatus and eye protection are required for fire fighting personnel on all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS:
Smoke, fumes, carbon monoxide, carbon dioxide and water.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
Health-2, Flammability-1, Reactivity-0  (Based on components)

6. ACCIDENTAL RELEASE MEASURES
Notify the appropriate authorities immediately. Take all actions necessary to prevent adverse effects of the spill. Eliminate ignition sources. Shut off leak if safe to do so. Dike spilled liquid with sand/earth and dispose of properly. DO NOT use sawdust or other combustible materials. Prevent product from entering sewers or waterways.
National Response Center 1-800-424-8802

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient  STORAGE PRESSURE: Atmospheric
GENERAL:
Keep container closed. Loosen closure cautiously before opening. Store in well ventilated area away from incompatible materials. (See Section 10) Keep away from heat, sparks and flames. Empty container may still retain hazardous properties.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:
Use mechanical ventilation to control vapor concentrations in confined spaces. General ventilation should be sufficient for
most operations.

John Deere Cool Gard II
Page 4 of 5

8. EXPOSURE CONTROL / PERSONAL PROTECTION (Continued)

PERSONAL PROTECTION:
Respirator:
Use an air supplied respirator when concentrations are over
the exposure limits.

Protective Clothing:
For brief contact, no precautions are necessary. Wear nitrile/neoprene gloves, nitrile/neoprene boots, a
chemical worker's suit and chemical splash goggles as
appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point</td>
<td>330°F approximately</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Very low (0.05mmHg @ 20°C)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Completely miscible</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.11 - 1.14 @ 60°F</td>
</tr>
<tr>
<td>pH</td>
<td>Basic: 9-11</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet</td>
</tr>
<tr>
<td>Appearance</td>
<td>Golden</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

GENERAL:
This product is stable under normal storage conditions.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:
Oxidizing agents.

HAZARDOUS DECOMPOSITION:
None.

HAZARDOUS POLYMERIZATION:
Will not occur

11. TOXICOLOGICAL INFORMATION

No component of this product present at levels greater than 0.1
is identified as a carcinogen by NTP, IARC or OSHA.
Data on animal testing is provided in section 3 (other).
No data on humans; Exposure can cause Nausea, Headache & Vomiting.
12. ECOLOGICAL INFORMATION
   No data is available.

13. DISPOSAL CONSIDERATIONS
   Ensure disposal is in compliance with Federal-State-Local laws.
   Do not landfill or dispose of in sink drains or sewers.

14. TRANSPORTATION INFORMATION

   DOT (Department of Transportation):
   Proper shipping name : Environmentally Hazardous Substance,
                         Liquid, n.o.s., (Contains Ethylene
                         Glycol), UN 3082, PG III

   Hazard class : 9
   Labeling : Warning! Harmful or fatal if
              swallowed. Avoid excessive exposure.
              Avoid breathing sprays or mists.

   * This product is only regulated in single containers over 5000 pounds

15. REGULATORY INFORMATION

   TSCA (Toxic Substance Control Act):
   All components of this product are listed on the U.S. TSCA
   inventory.

   CERCLA (Comprehensive Response Compensation, and Liability Act):
   This product is not subject to any special reporting under the
   requirements of CERCLA under 5000 pounds. We recommend you
   contact local authorities to determine local reporting
   requirements.

   SARA TITLE III (Superfund Amendments and Reauthorization Act):
   311/312 Hazard Categories:
   This material is defined as hazardous by OSHA under
   29 CFR part 1910.1200(d). Immediate health hazard and
   delayed health hazard.

   313 Reportable Ingredients:
   Contains approximately 90 weight percent of Ethylene Glycol.

16. OTHER INFORMATION

   THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES
   CONSIDERED TO BE DEPENDABLE AND IS ACCURATE TO THE BEST OF
   NORTHLAND PRODUCTS COMPANY'S KNOWLEDGE; HOWEVER, NORTHLAND
   PRODUCTS COMPANY MAKES NO WARRANTY WHATSOEVER, EXPRESSED OR
   IMPLIED, OF MERCHANTABILITY OR FITNESS FOR THE PARTICULAR
   PURPOSE, REGARDING THE ACCURACY OF SUCH DATA OR THE RESULTS
   TO BE OBTAINED FROM THE USE THEREOF. NORTHLAND PRODUCTS COMPANY
   ASSUMES NO RESPONSIBILITY FOR THE INJURY TO THE RECIPIENT OR TO
THIRD PARTY PERSONS OR FOR ANY DAMAGE TO ANY PROPERTY AND RECIPIENT ASSUMES ALL SUCH RISKS.
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: John Deere Plus-50 II SAE 15W-40
Product description: API CJ-4 Engine Oil/Lubricant
TY26682, TY26686

MANUFACTURER: Northland Products Company
1000 Rainbow Drive
Waterloo, IA 50704
319-234-5585, 1-800-772-1724

EMERGENCY TELEPHONE NUMBERS:
Chemtrec: 1-800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th></th>
<th>wt. Percent</th>
<th>CAS Registry #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lube Oil Base Stock</td>
<td>75-82</td>
<td>064742-54-7</td>
</tr>
<tr>
<td>Petroleum Additives</td>
<td>18-25</td>
<td>Mixture</td>
</tr>
</tbody>
</table>

3. HAZARD IDENTIFICATION

Emergency Overview:
Clear, Amber, Liquid. (May be dyed or odor-masked.)
Health studies have shown that petroleum hydrocarbons pose potential human health risks which may vary from person to person. Exposure to liquids, mists, vapors and fumes should be minimized.

POTENTIAL HEALTH EFFECTS:

INHALATION:
Vapors are minimal under normal conditions but should be avoided, concentrations may reach levels that could cause slight irritation.

EYE CONTACT:
May cause slight temporary eye irritation. Corneal injury is unlikely. Vapors or mists may irritate eyes.

SKIN CONTACT:
May cause skin irritation. Discontinue use if irritation persists.

INGESTION:
Ingestion of oil may irritate the digestive tract and could cause diarrhea. Single dose oral toxicity of oil is greater than 5000 mg/Kg in rats.

OTHER:
The TLV has not been determined for this material. The TLV for oil mists is 5 mg/cubic meter.

Hazardous Material Identification System (HMIS):
Health-1, Flammability-1, Reactivity-0 (Based on components)
4. FIRST AID MEASURES

INHALATION:
Remove the exposed person from the area to fresh air. Call a physician. Give oxygen if victim is breathing hard.

EYE CONTACT:
Flush eyes with large amounts of water immediately for 15 minutes or until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:
Wash affected areas thoroughly with soap and water. Remove contaminated clothing and wash them before wearing again. Call a physician if irritation persists.

INGESTION:
Call a doctor immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flash point: 425°F (COC)
Flammable limits: Not Determined
Auto-ignition Temperature: Not Available

GENERAL HAZARD:
May release vapors that form flammable mixtures when temperatures are at or above the flash point. Toxic gases will form upon combustion.

FIRE FIGHTING INSTRUCTIONS:
Either allow fire to burn out under controlled conditions or extinguish with foam, CO₂, or dry chemical. Try to cover liquid spills with foam. Shut off fuel to fire if possible to do so without hazard.

FIRE FIGHTING EQUIPMENT:
NIOSH approved self-contained breathing apparatus and eye protection are required for firefighting personnel on all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS:
Smoke, fumes, carbon monoxide, carbon dioxide and water.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
Health-1, Flammability-1, Reactivity-0 (Based on components)

6. ACCIDENTAL RELEASE MEASURES

Notify the appropriate authorities immediately. Take all actions necessary to prevent adverse effects of the spill. Eliminate ignition sources. Shut off leak if safe to do so. Dike spilled liquid with sand/earth and dispose of properly. DO NOT use sawdust or other combustible materials. Prevent product from entering sewers or waterways.

National Response Center 1-800-424-8802
7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Ambient  STORAGE PRESSURE: Atmospheric

GENERAL:
Keep container closed. Loosen closure cautiously before opening. Store in well ventilated area away from incompatible materials. (See Section 10) Keep away from heat, sparks and flames. Empty container may still retain hazardous properties.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:
Use mechanical ventilation to control vapor concentrations in confined spaces. General ventilation should be sufficient for most operations.

PERSONAL PROTECTION:
Respirator:
Use an air supplied respirator when concentrations are over the exposure limits.
Protective Clothing:
Wear rubber gloves, rubber boots, a chemical worker's suit and chemical splash goggles as appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling point : Not Available
Vapor pressure : Negligible at ambient
Vapor density : Not determined
Solubility in water : Negligible
Specific gravity : 0.878
pH : Not available
Odor : Petroleum (Could be masked)
Appearance : Clear Amber (Could be dyed)
Physical state : Liquid

10. STABILITY AND REACTIVITY

GENERAL:
This product is stable and will not polymerize.
INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:
Strong oxidizing agents.
HAZARDOUS DECOMPOSITION:
Alkyl Mercaptans, Hydrogen Sulfide
11. TOXICOLOGICAL INFORMATION

No component of this product present at levels greater than 0.1% are identified as a carcinogen by NTP, IARC or OSHA.

12. ECOLOGICAL INFORMATION

This material is expected be toxic to aquatic animals and is not expected to be readily biodegradable based on data for the additive.

13. DISPOSAL CONSIDERATIONS

Ensure disposal is in compliance with Federal-State-Local laws. Do not landfill or dispose of in sink drains or sewers. Recycle is possible.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):
Proper shipping name : Petroleum Lubricating Oil.
Hazard class : Not regulated
Identification number : Not regulated
Labeling : Not regulated

15. REGULATORY INFORMATION

CERCLA(Comprehensive Response Compensation, and Liability Act):
This product is not subject to any special reporting under the requirements of CERCLA. We recommend you contact local authorities to determine local reporting requirements.

SARA TITLE III(Superfund Amendments and Reauthorization Act):
311/312 Hazard Categories:
This material is not classified as hazardous by OSHA under 29 CFR part 1910.1200(d).
313 Reportable Ingredients:
Contains less than 1 weight percent of Zinc compounds.

International Inventory Status:
United States : All components on TSCA Inventory
15. REGULATORY INFORMATION (Continued)

Canada : All components comply with DSL
Europe : All components on EINECS
          (Secondary notification by importer may be required.)
Japan : All components on MITI or MOL
Australia : All components notified but may not be on NICNAS
          (Secondary notification by importer may be required.)
Korea : All components notified but may not be on ECL
          (Secondary notification by importer may be required.)
China : One or more additive components do not comply with the chemical inventory requirements of IECSC
Philippines : All components on PICCS

16. OTHER INFORMATION

THE INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED TO BE DEPENDABLE AND IS ACCURATE TO THE BEST OF NORTHLAND PRODUCTS COMPANY'S KNOWLEDGE; HOWEVER, NORTHLAND PRODUCTS COMPANY MAKES NO WARRANTY WHATSOEVER, EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE, REGARDING THE ACCURACY OF SUCH DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. NORTHLAND PRODUCTS COMPANY ASSUMES NO RESPONSIBILITY FOR THE INJURY TO THE RECIPIENT OR TO THIRD PARTY PERSONS OR FOR ANY DAMAGE TO ANY PROPERTY AND RECIPIENT ASSUMES ALL SUCH RISKS.
1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Klean Strip Odorless Mineral Spirits and Odorless Painter's Solvent
Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113
Phone Number: (901)775-0100
Web site address: www.wmbarr.com
Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346
Information: W.M. Barr Customer Service (800)398-3892

Intended Use: For thinning oil-based paint, stain and varnish.

Synonyms:
QKSP94205CA, GKSP94214CA, QKSP94005CA, QKSP94005LCA, GKSP94006CA, GKSP94006PCA, GKSP94006SC, GKSP94006PSC, GKSP94214SC, QKSP94205SC, QKSP94005SC

2. HAZARDS IDENTIFICATION

Aspiration Toxicity, Category 1

GHS Signal Word: Danger
GHS Hazard Phrases: H304: May be fatal if swallowed and enters airways. H336: May cause drowsiness or dizziness.
GHS Precaution Phrases: No phrases apply.
P405: Store locked up.
P501: Dispose of contents/container according to local, state and federal regulations.
Hazard Rating System:
Flammability: 1
Instability: 0
Health: 1
Physical: 0
PPE: X
NFPA: 1 1 1

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.
Potential Health Effects (Acute and Chronic):
INHALATION: Vapor harmful. Danger of serious damage to health by prolonged exposure through inhalation.
SKIN CONTACT: Prolonged skin contact may cause skin irritation and/or dermatitis.
EYE CONTACT: Liquid contact may cause irritation.
INGESTION:
Harmful or fatal if swallowed. May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

CHRONIC EFFECTS:
Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage.

TARGET ORGANS: skin, central nervous system

PRIMARY ROUTES OF ENTRY: inhalation, skin contact

Medical Conditions Generally Aggravated By Exposure:

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Concentration</th>
<th>RTECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-47-8</td>
<td>Hydrotreated light distillate (petroleum)</td>
<td>100.0 %</td>
<td>OA5504000</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Emergency and First Aid Procedures:
Skin:
Wash the skin thoroughly with water and soap, if available, while removing contaminated clothing. Seek medical attention if irritation develops or persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes. Seek medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Signs and Symptoms Of Exposure:
See Potential Health Effects.

5. FIRE FIGHTING MEASURES

NFPA Class III B

Flash Pt: 218.00 °F  Method Used: Pensky-Marten Closed Cup

Explosive Limits:
LEL: 0.6 %  UEL: 5.5 %

Autoignition Pt: 456.80 °F

Suitable Extinguishing Media: Use carbon dioxide, dry powder, foam, or water spray/fog.

Unsuitable Extinguishing Media:
None known.

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

Flammable Properties and Hazards:
No data available.
6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:
Isolate the immediate area. Prevent unauthorized entry. Eliminate all sources of ignition in area and downwind of the spill area. Stay upwind, out of low areas, and ventilate closed spaces before entering. All equipment used when handling this product must be grounded or non-sparking. Do not touch or walk through spilled material. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand, or other non-combustible material and transfer to compatible containers. For large spills, dike ahead of the spill for possible collection and reuse or disposal.

7. HANDLING AND STORAGE

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

Do not use near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Ensure all equipment is electrically grounded before beginning transfer operations.

Avoid prolonged skin contact.

Precautions To Be Taken in Storing:
Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS # Partial Chemical Name OSHA TWA ACGIH TWA Other Limits
64742-47-8 Hydrotreated light distillate (petroleum) No data. TLV: 200 mg/m3 No data.

Respiratory Equipment (Specify Type):
For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection:
Chemical splash goggles should be worn to prevent eye contact.

Protective Gloves:
Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile rubber may provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing:
Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Engineering Controls (Ventilation etc.):
Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices:
- Wash hands thoroughly after use and before eating, drinking, or smoking.
- Do not eat, drink, or smoke in the work area.
- Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical States:**
- [ ] Gas
- [X] Liquid
- [ ] Solid

**Appearance and Odor:**
Aromatic hydrocarbon-like odor. Clear liquid.

**Melting Point:**
-72.40 F

**Boiling Point:**
449.00 F - 505.00 F

**Autoignition Pt:**
456.80 F

**Flash Pt.:**
218.00 F Method Used: Pensky-Marten Closed Cup

**Explosive Limits:**
- LEL: 0.6 %
- UEL: 5.5 %

**Specific Gravity (Water = 1):**
- 0.8102 at 25.0 C

**Density:**
- 6.84 LB/GL

**Vapor Pressure (vs. Air or mm Hg):**
- 0.05 MM HG at 78.0 F

**Vapor Density (vs. Air = 1):**
- 5.9 Air = 1

**Evaporation Rate:**
- 0.02

**Solubility in Water:**
- Not Soluble

**Percent Volatile:**
- 100.0 % by weight.

**VOC / Volume:**
- 0.0000 G/L

**Additional Physical Information:**
This product is not a VOC as defined by the California Air Resources Board (CARB).

10. STABILITY AND REACTIVITY

**Stability:**
- Unstable [ ]
- Stable [ X ]

**Conditions To Avoid:***
- No data available.

**Instability:**
- Incompatible with oxidizing agents.

**Incompatibility - Materials To Avoid:**
- Thermal decomposition may produce carbon monoxide and carbon dioxide.

**Hazardous Decomposition Or Gas:**
- Will occur [ ]
- Will not occur [ X ]

**Byproducts:**
- No data available.
11. TOXICOLOGICAL INFORMATION

Toxicological Information: Refer to section 2 for acute and chronic effects.

Chronic Toxicological Effects:

Carcinogenicity/Other Information: ACGIH A4 - Not Classifiable as a Human Carcinogen.

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
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</thead>
<tbody>
<tr>
<td>64742-47-8</td>
<td>Hydrotreated light distillate (petroleum)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>A4</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

General Ecological Information: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Paint Related Material, Not Regulated

DOT Hazard Class:

UN/NA Number:

Additional Transport Information: The shipper / supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. REGULATORY INFORMATION

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

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-47-8</td>
<td>Hydrotreated light distillate (petroleum)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>[X] Yes</th>
<th>[ ] No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute (immediate) Health Hazard</td>
<td>[X] Yes</td>
<td>[ ] No</td>
</tr>
<tr>
<td>Chronic (delayed) Health Hazard</td>
<td>[X] Yes</td>
<td>[ ] No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>[ ] Yes</td>
<td>[X] No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>[ ] Yes</td>
<td>[X] No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>[X] Yes</td>
<td>[ ] No</td>
</tr>
</tbody>
</table>

CAS # Hazardous Components (Chemical Name) Other US EPA or State Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-47-8</td>
<td>Hydrotreated light distillate (petroleum)</td>
<td></td>
</tr>
</tbody>
</table>
Regulatory Information Statement: All components of this material are listed on the TSCA Inventory or are exempt.

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th><strong>Revision Date:</strong></th>
<th>04/14/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparer Name:</strong></td>
<td>W.M. Barr EHS Department (901)775-0100</td>
</tr>
<tr>
<td><strong>Additional Information About This Product:</strong></td>
<td>No data available.</td>
</tr>
<tr>
<td><strong>Company Policy or Disclaimer:</strong></td>
<td>The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.</td>
</tr>
</tbody>
</table>
Material Safety Data Sheet

Revision Date 16-Dec-2013

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product code 19910C
Product name Kwikee Penetrating Oil
Recommended Use Lubricant
Supplier Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664
Emergency telephone number (888) 426-4851

2. HAZARDS IDENTIFICATION

Aggravated Medical Conditions
None Known

Principal Routes of Exposure
Eyes. Skin. Inhalation.

Potential health effects

Eyes
Exposure to vapors or mists may cause the following effects:. Irritation. Reddening. Itching. Burning sensation.

Skin
Repeated or prolonged exposure may cause:. Skin Irritation. Redness. Itching. Burning sensation.

Inhalation

Ingestion
No information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrachloroethylene</td>
<td>127-18-4</td>
<td>40-70</td>
</tr>
<tr>
<td>Butane</td>
<td>106-97-8</td>
<td>7-13</td>
</tr>
<tr>
<td>Propane</td>
<td>74-98-6</td>
<td>7-13</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), medium aliphatic</td>
<td>64742-88-7</td>
<td>7-13</td>
</tr>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic</td>
<td>64742-52-5</td>
<td>3-7</td>
</tr>
<tr>
<td>Petroleum distillates, solvent-refined light paraffinic</td>
<td>64741-89-5</td>
<td>1-5</td>
</tr>
<tr>
<td>n-Butyl alcohol</td>
<td>71-36-3</td>
<td>0.5-1.5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye contact
Flush with plenty of water for at least 15 minutes. Seek medical attention.

Skin contact
Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use.

Ingestion
Do Not induce vomiting. Seek medical attention immediately.

Inhalation
Remove to fresh air. Restore breathing. Keep warm and quiet.

5. FIRE FIGHTING MEASURES

Flash point °C  < -17.78
Flash point °F  < 0
Method Tag Closed Cup

Autoignition temperature °C  No data available
Autoignition temperature °F  No data available

Flammability Limits (% in Air)

Upper 11.2
Lower 1.0

Specific Information for Aerosol Products

Flame extension 30" w/o extension tube; 36" w/ extension tube
Flashback None

Suitable extinguishing media
Carbon dioxide (CO2). Dry chemical. Foam.

Special protective equipment for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Fire and Explosion Hazards
Containers may vent or burst under extreme or prolonged fire conditions. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Sensitivity to shock
No information available.

Sensitivity to static discharge
No information available.

6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Eliminate all sources of ignition. Ventilate area to maintain exposure below permissible exposure limits. Soak up with inert absorbent material. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling
Keep away from open flames, hot surfaces and sources of ignition. Vapors may accumulate readily and may ignite explosively. Turn off other sources of ignition prior to use and until all vapors have dissipated. Ensure adequate ventilation. Do not smoke. Check to make sure that all equipment is properly grounded and installed to satisfy electrical classification requirements. Thoroughly wash hands and exposed skin after handling. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Contents under pressure. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Do not puncture or incinerate. Do not take internally. Keep out of reach of children.

Storage
Store in temperatures below 120 degrees F (50 degrees C).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL (TWA)</th>
<th>OSHA PEL (Ceiling)</th>
<th>ACGIH OEL (TWA)</th>
<th>ACGIH OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>1000 ppm</td>
<td>-</td>
<td>1000 ppm</td>
<td>-</td>
</tr>
<tr>
<td>Butane</td>
<td>800 ppm</td>
<td>-</td>
<td>-</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), medium aliphatic</td>
<td>100 ppm</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>100 ppm</td>
<td>200 ppm</td>
<td>25 ppm</td>
<td>100 ppm</td>
</tr>
<tr>
<td>Petroleum distillates, solvent-refined light paraffinic</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Ventilation and Environmental Controls
Use enough ventilation, local exhaust at the work area, general, or both, to keep below the TLV's in the worker's breathing zone and the general area. Local: recommended.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands after handling the product.

Other precautions
Avoid breathing vapors or mists.

Respiratory protection
If the exposure limits are exceeded, a NIOSH/MSHA approved respirator is recommended. Wear a NIOSH approved organic vapor/particulate respirator.

Hand Protection
Gloves are not required in normal use. The following gloves are recommended for prolonged or repeated contact: Chemical resistant gloves.

Eye protection
Wear safety glasses with side shields.

Skin and body protection
None necessary under normal conditions

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Aerosol</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.00</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>8.33 lb/gal; 998 g/l</td>
</tr>
<tr>
<td>Vapor density</td>
<td>&gt;Air</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&gt;1 (Ether =1)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>VOC Content</td>
<td>30.00%</td>
</tr>
<tr>
<td>Partition Coefficient (n-octanol/water)</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/range °C</td>
<td>&lt; -18 - 201</td>
</tr>
<tr>
<td>Boiling point/range °F</td>
<td>&lt; -0 - 395</td>
</tr>
<tr>
<td>Melting point/range °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/range °F</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point °C</td>
<td>&lt; -17.78</td>
</tr>
<tr>
<td>Flash point °F</td>
<td>&lt; 0</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY
10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
None known.

Incompatibility
None known.

Hazardous Decomposition Products

Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LC50 (inhalation, rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>-</td>
<td>-</td>
<td>658 mg/L</td>
</tr>
<tr>
<td>Butane</td>
<td>-</td>
<td>-</td>
<td>658 g/m³</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), medium aliphatic</td>
<td>5000 mg/kg</td>
<td>3000 mg/kg</td>
<td>5.28 mg/L</td>
</tr>
<tr>
<td>Tetrachloroethylene 127-18-4</td>
<td>2829 mg/kg</td>
<td>-</td>
<td>4000 ppm</td>
</tr>
<tr>
<td>Petroleum distillates, solvent-refined light paraffinic 64741-89-5</td>
<td>5000 mg/kg</td>
<td>5 g/kg</td>
<td>2.18 mg/L</td>
</tr>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic 64742-52-5</td>
<td>28710 mg/kg</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>n-Butyl alcohol 71-36-3</td>
<td>-</td>
<td>-</td>
<td>8000 ppm</td>
</tr>
</tbody>
</table>

Synergistic Products
None known

Specific Hazards
Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain damage.

Potential health effects

- Sensitization
  - None known

- Chronic toxicity
  - See Section 2.

- Mutagenic effects
  - None known

Carcinogenic effects
NTP and IARC have determined that exposure to tetrachloroethylene (perchloroethylene) is reasonably anticipated to be carcinogenic to humans (IARC Group 2A). Risk of cancer depends on duration and level of exposure.

12. ECOLOGICAL INFORMATION

Microtox Data
- *Tetrahymena pyriformis* EC50=100 mg/L (24 h)
- *Nitrosomonas* EC50=112 mg/L (24 h)
- *Photobacterium phosphoreum* EC50=120.0 mg/L (30 min)

Water Flea Data
- *Daphnia magna* EC50=0.1 - 9.0 mg/L (48 h)
- *Daphnia magna* hEC50=48 (>100 mg/L)
- Petroleum distillates, hydrotreated heavy naphthenic

Water Flea Data
- *Daphnia magna* EC50=1000 mg/L (48 h)
12. ECOLOGICAL INFORMATION

Petroleum distillates, solvent-refined light paraffinic

Water Flea Data
Daphnia magna EC50>1000 mg/L (48 h)

n-Butyl alcohol

Microtox Data
Photobacterium phosphoreum EC50=2041.4 mg/L (5 min)
Photobacterium phosphoreum EC50=2186 mg/L (30 min)
Aerobic heterotroph EC50=3980 mg/L (24 h)
Pseudomonas putida EC50=4400 mg/L (17 h)

Water Flea Data
Daphnia magna EC501897 - 2072 mg/L (48 h)
Daphnia magna EC50=1983 mg/L (48 h)

13. DISPOSAL CONSIDERATIONS

Disposal Information
As supplied, this product is a RCRA Hazardous Waste. Waste must be tested for ignitability to determine EPA hazardous waste numbers. Do not puncture or incinerate. Depressurize before disposal. Discard container or liner in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Consumer commodity, ORM-D.

TDG
Consumer commodity, ORM-D.

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>US EPA SARA 313 Emission Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrachloroethylene</td>
<td>Listed</td>
</tr>
<tr>
<td>n-Butyl alcohol</td>
<td>Listed</td>
</tr>
</tbody>
</table>

State Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey - RTK</th>
<th>Pennsylvania - RTK</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane</td>
<td>Listed</td>
<td>Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Butane</td>
<td>Listed</td>
<td>Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Solvent naphtha (petroleum), medium aliphatic</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>Listed</td>
<td>Listed</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Petroleum distillates, solvent-refined light paraffinic</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Petroleum distillates, hydrotreated heavy naphthenic</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>n-Butyl alcohol</td>
<td>Listed</td>
<td>Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations.

HMIS

Health - 2 *
Flammability - 3
Physical Hazard - 0

Prepared By
V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.
1. PRODUCT AND COMPANY IDENTIFICATION

Brand Name: National  
Manufacturer: Pinnacle Oil, Inc.  
City: Indianapolis  
Product Name(s): Bar & Chain  
Address: 5009 W. 81st Street  
Zip: 46268  
State: IN  
Phone: (800) 829-8899  
Fax: (317) 875-0889  
Emergency Number: (800) 829-8899

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#:</th>
<th>% Volume</th>
<th>ACGIH TLV</th>
<th>ACGIH STEL</th>
<th>OSHA PEL</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Mist, If Generated</td>
<td>None</td>
<td>N/A</td>
<td>5 mg/m³, 8 hr.</td>
<td>10 mg/m³, 8 hr.</td>
<td>5 mg/m³, 8 hr.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA</td>
<td>TWA</td>
<td>TWA</td>
<td></td>
</tr>
<tr>
<td>Lubricant Base Oil(Petroleum)</td>
<td>Mixture</td>
<td>100</td>
<td>See Oil Mist, if Generated</td>
<td>See Oil Mist, if Generated</td>
<td>See Oil Mist, if Generated</td>
<td></td>
</tr>
</tbody>
</table>

The base oil for this product can be a mixture of any of the following highly refined petroleum streams:


Note: State, local, or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information. All components are listed on the TSCA inventory.

3. HAZARDS IDENTIFICATION

Potential Health Effects


Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis(inflammation). No harmful effects from skin absorption are expected.

Ingestion: No harmful effects expected from ingestion.

Inhalation: No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Chronic Effects: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Potential Environmental Effects: See Ecological Information, See Section 12.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation: If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion: First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Date Printed: Tuesday, November 29, 2011
Note to Physicians: High pressure hydrocarbon injection injuries may produce a substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of the injury. Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term effects. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE FIGHTING MEASURES

Flash Point: 400F-D92 LEL/UEL % No Data Auto Ignititon Temperature: No Data
OSHA Flammability Class: Not applicable
Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212F. Carbon dioxide can displace oxygen. Use care when applying carbon dioxide in confined spaces.
Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Fire and Explosion Hazards: This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material. Notify fire authorities and appropriate federal, state and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 2 and 8). Do not wear contaminated clothing or shoes. Use good personal hygiene practices. High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment. Empty containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged, and promptly shipped to the supplier or drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Storage temperatures above 113F may lead to thermal decomposition, resulting in the generation of hydrogen sulfide and other sulfur containing gases. Store only in approved containers. Keep away from incompatible materials (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation of exhaust system may be required.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Skin: No special protective clothing is normally required. Where splash is possible, select protective clothing depending on operations conducted physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile rubber, Silver...
9. PHYSICAL AND CHEMICAL PROPERTIES

NOTE: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Brown</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Not soluble</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic Petroleum</td>
</tr>
<tr>
<td>Flash Point</td>
<td>400°F-D92</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Flammable/Explosive Limits (%)</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>NFPA Health</td>
<td>1</td>
</tr>
<tr>
<td>NFPA Flammability</td>
<td>1</td>
</tr>
<tr>
<td>NFPA Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>HMIS Health</td>
<td>1</td>
</tr>
<tr>
<td>HMIS Fire</td>
<td>1</td>
</tr>
<tr>
<td>HMIS Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>Vapor Pressure (mm Hg)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Density (air=1)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials):
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products:
Combustion can yield aldehydes and carbon, nitrogen, sulfur, phosphorus and zinc oxides. Hydrogen sulfide and alkyl mercaptans may also be released. Thermal decomposition may produce hydrogen sulfide and other sulfur-containing gases at temperatures greater than 113°F.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity:
The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristic. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecological Information:
Not Evaluated at this Time

13. DISPOSAL CONSIDERATIONS

Disposal Consideration:
This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.
14. TRANSPORT INFORMATION

Note: Not classified as hazardous

15. REGULATORY INFORMATION

OSHA Hazard Determination: This material is not known to be hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: All of the components of this material are listed on the Toxic Chemical Substances Inventor. This product is in compliance with Toxic Substances Control Act (TSCA).

CERCLA(RQ): This product is not subject to CERCLA reporting requirements.

SARA 311/312: Acute Health: No Pressure Hazard: No Chronic Health: No Reactive Hazard: No Fire Hazard: No

SARA 302/304: There are no components in this product on the SARA 302/304 list.

SARA 313, Toxic Component(s): This Product does not contain >1.0 % (greater than 0.1% for Carcinogenic substance) of any chemical substances listed under SARA Section 313.

California Prop 65: Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): -- None Known --. Used engine oils, while not a component of this material, is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

16. OTHER INFORMATION

Disclamation: This information relates only to the specific material designated and may not be valid for such material used for in combination with other materials or in any process. Such information is, to the best of Pinnacle Oil's knowledge and belief, accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his particular use.


SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>Levington Rose, Tree &amp; Shrub Compost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Product description</td>
<td>Growing media</td>
</tr>
<tr>
<td>Specification Number</td>
<td>320000001348</td>
</tr>
<tr>
<td>Product type</td>
<td>Fibrous solid.</td>
</tr>
<tr>
<td>Other means of identification</td>
<td>300000001453</td>
</tr>
</tbody>
</table>

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended use and restrictions: For use as a home garden growing media/soil conditioner

1.3 Details of the supplier of the safety data sheet

The Scotts Company (UK) Limited
Salisbury House, Weyside Park, Catteshall Lane
Godalming, Surrey GU7 1XE
United Kingdom

Email: INFO-MSDS@SCOTTS.COM

1.4 Emergency telephone number

National advisory body/Poison Center

24 h. EMERGENCY TELEPHONE NUMBER: 01865 407 333
Non-Emergency Calls: 0845 190 1881

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.
Classification according to Directive 1999/45/EC [DPD]

The product is not classified as dangerous according to Directive 67/548/EEC and its amendments.

Classification: Not classified.
See Section 16 for the full text of the R phrases or H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word: No signal word.
Hazard statements: No known significant effects or critical hazards.

Precautionary statements

Prevention: P101 If medical advice is needed: Have product container or label at hand.
P103 Read label before use.

Response: Not applicable.

Storage: P234 Keep only in original container.

Disposal: P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Risk phrases: This product is not classified according to EU legislation.

Safety phrases: Not applicable.

Supplemental label elements: Avoid breathing dust.
Wash hands thoroughly after handling.
Wear protective gloves.
Use only in well-ventilated areas.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII: Not available.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII: Not available.

Other hazards which do not result in classification: None known.
SECTION 3: Composition/information on ingredients

Substance/mixture : Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Wash with plenty of soap and water. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : No specific fire or explosion hazard.

Hazardous thermal decomposition products : No specific data.

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Additional information : Not available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Vacuum or sweep up material and place in container for disposal. Do not allow to enter drains or watercourses. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections

- See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

**Protective measures**
- Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**
- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
- Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

**Recommendations**
- Not available.

**Industrial sector specific solutions**
- Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Occupational exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>No exposure limit value known.</td>
<td></td>
</tr>
</tbody>
</table>

**Recommended monitoring procedures**
- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN
14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNEL/DMEL Summary**
- Not available.

**PNEC Summary**
- Not available.

### 8.2 Exposure controls

**Appropriate engineering controls**
- No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures**
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection**
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection**
- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**
- Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**
- Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Environmental exposure controls**
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of
environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Fibrous solid.</td>
</tr>
<tr>
<td>Color</td>
<td>Brown.</td>
</tr>
<tr>
<td>Odor</td>
<td>Earthy odor</td>
</tr>
<tr>
<td>Density</td>
<td>340 kg/m³</td>
</tr>
<tr>
<td>pH</td>
<td>5.8</td>
</tr>
</tbody>
</table>

9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
The product is stable.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
No specific data.

10.5 Incompatible materials
No specific data.

10.6 Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Conclusion/Summary
Not available.

Acute toxicity estimates
Not available.
Irritation/Corrosion

Conclusion/Summary

Skin : Not available.
Eyes : Not available.
Respiratory : Not available.

Sensitization

Conclusion/Summary

Skin : Not available.
Respiratory : Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary : Not available.
SECTION 12: Ecological information

12.1 Toxicty

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (KOC) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : P: Not available.  
     : B: Not available.  
     : T: Not available.  

vPvB : vP: Not available.  
     : vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : Do not contaminate water with the product or its container. Do not re-use empty container. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.
Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

European waste catalogue (EWC)

<table>
<thead>
<tr>
<th>Waste code</th>
<th>Waste designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not available.</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Packaging

Methods of disposal: This material and its container must be disposed of in a safe way.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th></th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.2 UN proper shipping name</td>
<td>Not classified as dangerous</td>
<td>Not classified as dangerous</td>
<td>Not classified as dangerous</td>
<td>Not classified as dangerous</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorization
Substances of very high concern

Carcinogen: Not listed
Mutagen: Not listed
Toxic to reproduction: Not listed
PBT: Not listed
vPvB: Not listed

Other EU regulations
Europe inventory : Not determined.
Integrated pollution prevention and control list (IPPC) - Air : Not listed
Integrated pollution prevention and control list (IPPC) - Water : Not listed
Aerosol dispensers : Not applicable.

Seveso III Directive
This product is not controlled under the Seveso III Directive.

15.2 Chemical Safety Assessment : Not available.

SECTION 16: Other information

Abbreviations and acronyms:
ADN = European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Inland Road
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Good Code
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
DMEL = Derived Minimal Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

Version: 1.1  Date of issue/Date of revision: 02.10.2013  Date of previous issue: 09.11.2012

Levington Rose, Tree & Shrub Compost

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Peak Global Lifetime Concentrate Antifreeze & Coolant

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Automotive Engine Antifreeze & Coolant

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemetec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification
Acute Tox. 4 (Oral) H302
STOT RE 2 H373
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling
Hazard pictograms (GHS-US) : ![Warning](GHS07) ![Signal](GHS08)

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H302 - Harmful if swallowed
H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral)

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe mist, spray, vapors
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear personal protective equipment as required
P301+P310 - If swallowed: Immediately call doctor/physician or poison center
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P308+P313 - If exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/container, in a safe manner, to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-US)
No data available
Peak Global Lifetime Concentrate Antifreeze & Coolant
Safety Data Sheet

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>% by wt</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethylene glycol</td>
<td>(CAS No) 107-21-1</td>
<td>90 - 97</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td>diethylene glycol</td>
<td>(CAS No) 111-46-6</td>
<td>&lt; 5</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td>water</td>
<td>(CAS No) 7732-18-5</td>
<td>&lt; 4</td>
<td>Not classified</td>
</tr>
<tr>
<td>denatonium benzoate</td>
<td>(CAS No) 3734-33-6</td>
<td>30 - 50 ppm</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice. Allow the victim to rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
First-aid measures after skin contact : Remove contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Rinse immediately with plenty of water (for at least 15 minutes). Get medical advice/attention. Specific treatment (see supplemental first aid instructions on this label).
First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. If eye irritation persists: Get medical advice and attention.
First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. If the person is fully conscious, make him/her drink two glasses of water. Never give an unconscious person anything to drink. Do NOT induce vomiting. Call a POISON CENTER/doctor/physician if you feel unwell. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whiskey. For children, give proportionally less liquor, according to weight. Rinse mouth. Call a POISON CENTER/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes serious eye damage.
Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. The lethal dose in humans is estimated to be 100 mL (3 oz).

4.3. Indication of any immediate medical attention and special treatment needed

A more effective intravenous antidote for physician uses is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occurred.

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media : Do not use a heavy water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
Special protective equipment for fire fighters: Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection. Refer to section 8.2.

Emergency procedures: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures: Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep only in the original container in a cool, well ventilated place away from heat sources. Keep container closed when not in use. Product may become solid at temperatures below -18 °C (0 ºF). Do not store near food, foodstuffs, drugs or potable water supplies. Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty.

Incompatible products: Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials: Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>ethylene glycol (107-21-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA ACGIH</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Personal protective equipment: Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or safety glasses.

Respiratory protection: If exposed to levels above exposure limits wear appropriate respiratory protection.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Color: Amber
Odor: Mild
Odor threshold: No data available
pH 50% water solution: 8
Relative evaporation rate (butylacetate=1): Nil
Freezing point: -18 °C (0 °F)
Boiling point: 158 °C (317 °F)
Flash point: 116 °C (241 °F) [100% Ethylene Glycol] ASTM D56
Auto-ignition temperature: 400 °C (752 °F) [100% Ethylene Glycol] Literature
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: < 0.1 @ 20 °C
Relative vapor density at 20 °C: No data available
Specific Gravity: 1.12
Density: 1.12 kg/l (9.3 lbs/gal)
Solubility: Water: Complete
Log Pow: No data available
Log Kow: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Explosive limits: 3.2 - 15.3 vol %

9.2. Other information
VOC content: 0.00 %

SECTION 10: Stability and reactivity

10.1. Reactivity
No dangerous reactions known under normal conditions of use.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Extremely high or low temperatures. Keep away from any flames or sparking source.

10.5. Incompatible materials
Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Oral: Harmful if swallowed.

<table>
<thead>
<tr>
<th>Compound</th>
<th>LD50 oral rat (mg/kg) (Rat)</th>
<th>LD50 dermal rabbit (mg/kg) (Rabbit)</th>
<th>ATE US (oral) (mg/kg bodyweight)</th>
</tr>
</thead>
<tbody>
<tr>
<td>denatonium benzoate (3734-33-6)</td>
<td>584</td>
<td>&gt; 2,000</td>
<td>584</td>
</tr>
<tr>
<td>ethylene glycol (107-21-1)</td>
<td>&gt; 5,000</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>

03/10/2015 EN (English)
### SECTION 12: Ecological information

#### 12.1. Toxicity

**denatonium benzoate (3734-33-6)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 1,000 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss))</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>13 mg/l (48 h; Daphnia magna)</td>
</tr>
</tbody>
</table>

**ethylene glycol (107-21-1)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>53,000 mg/l (96 h; Pimephales promelas; Static system)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 10,000 mg/l (24 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>40,761 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Static system)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>&gt; 10,000 mg/l (168 h; Scenedesmus quadricauda)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>2,000 mg/l (192 h; Microcystis aeruginosa)</td>
</tr>
</tbody>
</table>

**diethylene glycol (111-46-6)**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 5,000 ppm (24 h; Carassius auratus)</td>
</tr>
<tr>
<td>LC50 other aquatic organisms 1</td>
<td>1,174 mg/l (Xenopus laevis)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>&gt; 10,000 mg/l (24 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>61,072 ppm (168 h; Poecilia reticulata)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>&gt; 32,000 mg/l (96 h; Gambusia affinis)</td>
</tr>
<tr>
<td>TLM other aquatic organisms 1</td>
<td>&gt; 1,000 ppm (96 h)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 1</td>
<td>1,174 mg/l (72 h; Xenopus laevis; Toxicity test)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms 2</td>
<td>10,745 mg/l (16 h; Protozoa; Toxicity test)</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
<td>2,700 mg/l (168 h; Scenedesmus quadricauda)</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
<td>100 mg/l (Selenastrum capricornutum)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

**denatonium benzoate (3734-33-6)**

Persistence and degradability

Biodegradability in water: no data available. No (test) data on mobility of the substance available.

**ethylene glycol (107-21-1)**

Persistence and degradability


Biochemical oxygen demand (BOD) | 0.47 g O₂/g substance
Chemical oxygen demand (COD) | 1.24 g O₂/g substance
ThOD | 1.29 g O₂/g substance
BOD (% of ThOD) | 0.36 % ThOD
diethylene glycol (111-46-6)

Persistence and degradability  
Readily biodegradable in water. Biodegradable in the soil. Photolysis in the air.

Biochemical oxygen demand (BOD)  
0.02 g O₂/g substance

Chemical oxygen demand (COD)  
1.51 g O₂/g substance

ThOD  
1.51 g O₂/g substance

BOD (% of ThOD)  
0.015 % ThOD

12.3. Bioaccumulative potential

denatonium benzoate (3734-33-6)

Log Pow  
1.78 (Estimated value)

Bioaccumulative potential  
Low potential for bioaccumulation (Log Kow < 4).

ethylene glycol (107-21-1)

BCF fish 1  
10 (72 h; Leuciscus idus)

BCF other aquatic organisms 1  
0.21 - 0.6 (Procambarus sp.; Chronic)

BCF other aquatic organisms 2  
190 (24 h; Algae)

Log Pow  
-1.34 (Experimental value)

Bioaccumulative potential  
Low potential for bioaccumulation (BCF < 500). Not established.

diethylene glycol (111-46-6)

Log Pow  
-1.98

Bioaccumulative potential  
Bioaccumulation: not applicable.

12.4. Mobility in soil

ethylene glycol (107-21-1)

Surface tension  
0.048 N/m (20 ºC / 68 ºF)

diethylene glycol (111-46-6)

Surface tension  
0.0485 N/m

12.5. Other adverse effects

Effect on ozone layer  
No known effect on the ozone layer

Effect on global warming  
No known ecological damage caused by this product.

Other information  
Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations  
Dispose of contents/container, in a safe manner, to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

Ecology - waste materials  
Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description  
UN3082 Environmentally hazardous substances, liquid, n.o.s., 9, III

UN-No.(DOT)  
3082

DOT NA no.  
UN3082

Proper Shipping Name (DOT)  
Environmentally hazardous substances, liquid, n.o.s.

Department of Transportation (DOT) Hazard Classes  
9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT)  
9 - Class 9 (Miscellaneous dangerous materials)

DOT Symbols  
G - Identifies PSN requiring a technical name

Packing group (DOT)  
III - Minor Danger

DOT Packaging Exceptions (49 CFR 173.xxx)  
155

DOT Packaging Non Bulk (49 CFR 173.xxx)  
203

03/10/2015  
EN (English)
# Peak Global Lifetime Concentrate Antifreeze & Coolant
## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| DOT Packaging Bulk (49 CFR 173.xxx) | 241 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | No limit |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | No limit |
| DOT Vessel Stowage Location (A) | A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel. |
| Other information | Non Bulk: Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package). |

**ADR**
No additional information available

**Transport by sea**
- **UN-No. (IMDG)**: Not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)
- **Air transport**
- **UN-No. (IATA)**: Not regulated by IATA (in quantities under 5,000 lbs in any one inner package)

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

<table>
<thead>
<tr>
<th>Peak Global Lifetime Concentrate Antifreeze &amp; Coolant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPA TSCA Regulatory Flag</strong></td>
</tr>
<tr>
<td><strong>denatonium benzoate (3734-33-6)</strong></td>
</tr>
</tbody>
</table>
| **ethylene glycol (107-21-1)** | Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on United States SARA Section 313  
RQ (Reportable quantity, section 304 of EPA’s List of Lists) | 5000 lb(s)  
SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard  
Delayed (chronic) health hazard  
Ethylene glycol is subject to Tier 1 and/or Tier II annual inventory reporting.  
SARA Section 313 - Emission Reporting | Ethylene glycol is subject to Form R Reporting requirements.  
diethylene glycol (111-46-6) | Listed on the United States TSCA (Toxic Substances Control Act) inventory |

**15.2. International regulations**

**CANADA**

<table>
<thead>
<tr>
<th>Peak Global Lifetime Concentrate Antifreeze &amp; Coolant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHMIS Classification</strong></td>
</tr>
</tbody>
</table>

## WHMIS Classification

![Class D Division 2 Subdivision A - Very toxic material causing other toxic effects](image)

**EU-Regulations**
No additional information available

---

03/10/2015 EN (English) 7/8
Peak Global Lifetime Concentrate Antifreeze & Coolant
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

15.2.2. National regulations

<table>
<thead>
<tr>
<th>Peak Global Lifetime Concentrate Antifreeze &amp; Coolant</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSL (Canada): The intentional ingredients of this product are listed</td>
</tr>
<tr>
<td>ECL (South Korea): The intentional ingredients of this product are listed</td>
</tr>
<tr>
<td>EINECS (Europe): The intentional ingredients of this product are listed</td>
</tr>
<tr>
<td>ENCS (Japan): The intentional ingredients of this product are listed</td>
</tr>
</tbody>
</table>

15.3. US State regulations

ethylene glycol (107-21-1)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation, Category 2A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>STOT RE 2</td>
<td>Specific target organ toxicity — Repeated exposure, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation</td>
</tr>
</tbody>
</table>

- H302: Harmful if swallowed
- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation
- H373: May cause damage to organs through prolonged or repeated exposure

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard: 1 - Must be preheated before ignition can occur.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability: 1 Slight Hazard
Physical: 0 Minimal Hazard
Personal Protection: B

SDS GHS US (GHS HazCom 2012) OWI

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFY:

1. CHEMICAL PRODUCT & COMPANY INFORMATION

OLD WORLD INDUSTRIES, INC.
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 847-559-2000
EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS#</th>
<th>% by Wt</th>
<th>PEL (OSHA)</th>
<th>TLV (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
<td>90 - 97</td>
<td>50 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td>Diethylene Glycol</td>
<td>111-46-6</td>
<td>&lt; 5</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Hydrated inorganic acid, organic acid salts</td>
<td>proprietary</td>
<td>&lt; 5</td>
<td>10 mg/m³</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&lt; 4</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Slight odor.  May be fatal if swallowed.  Vapors can cause eye irritation.

Lowest Known LD50 (Oral)  107-21-1  5840 mg/kg (Rats)
Lowest Known LD50 (Skin)  107-21-1  9530 mg/kg (Rabbits)

PEAK Long Life Antifreeze
HAZARD RATING SYSTEM

NFPA: HEALTH: 1  FLAMMABILITY: 1  REACTIVITY: 0
HMIS: HEALTH: 2  FLAMMABILITY: 1  REACTIVITY: 0

KEY: 0 - Minimal  1 - Slight  2 - Moderate  3 - Serious  4 - Severe

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

Eye: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may cause eye irritation.

Skin: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

Ingestion: Single dose oral toxicity is considered to be moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

Inhalation: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

Systemic (Other Target Organ) Effects: Repeated excessive exposures may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

Cancer Information: Based on data from long-term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

Teratology (Birth Defects): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

Reproductive Effects: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

CHRONIC, PROLONGED OR REPEATED OVEREXPOSURE

Effects of Repeated Overexposure: Repeated inhalation of ethylene glycol mist may produce signs of central nervous system involvement, particularly dizziness and nystagmus.

PEAK Long Life Antifreeze
Other Effects of Overexposure: repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

4. FIRST AID MEASURES

Ensure physician has access to this MSDS.

TREATMENT

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before reuse.

Inhalation: If inhaled, immediately remove victim to fresh air and call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Obtain medical attention immediately. If patient is fully conscious, give two glasses of water. Do not induce vomiting. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whisky. For children, give proportionally less liquor, according to weight.

Notes to Physician:

It is estimated that the lethal oral dose to adults is of the order of 1.0 ml/kg. Ethylene glycol is metabolized by alcohol dehydrogenate to various metabolites including glyceraldehydes, glycolic acid and oxalic acid which cause an elevated anion-gap metabolic acidosis and renal tubular injury. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, CNS depression, and kidney injury. Urinalysis may show albuminuria, hematuria and oxaluria. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis and prevention of kidney injury. It is essential to have immediate and follow up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance and renal function tests. A continuous infusion of 5% sodium bicarbonate with frequent monitoring of electrolytes and fluid balance is used to achieve correction of metabolic acidosis and forced diuresis. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal. Given in the early stages of intoxication, it blocks the formulation of nephrotoxic metabolites. A therapeutically effective blood concentration of ethanol is in the range 100-150 mg/dl, and should be achieved by a rapid loading dose and maintained by intravenous infusion. For severe and/or deteriorating cases, hemodialysis may be required. Dialysis should be considered for patients who are symptomatic, have severe metabolic acidosis, a blood ethylene glycol concentration greater than 25 mg/dl, or compromise of renal functions.

A more effective intravenous antidote for physician use is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occurred. A generally recommended protocol is a loading dose of 15 mg/kg followed by 10 mg/kg every 12 hours for 4 doses and then 15 mg/kg every 12 hours until ethylene glycol concentrations are below 20 mg/100 ml. Slow intravenous infusion is required. Since 4-methylpyrazole is dialyzable, increased dosage may be necessary during hemodialysis. Additional therapeutic measures may include the administration of cofactors involved in the metabolism of ethylene glycol. Thiamine (100 mg) and pyridoxine (50 mg) should be given every six hours.

PEAK Long Life Antifreeze
Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. The mechanism of production has not been elucidated, but it appears to be non-cardiogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphasia.

5. FIRE FIGHTING MEASURES

Flammable Properties
Flash Point: 119°C (247°F)
Method Used: Setaflash
Autoignition Temperature: Autoignition temperature for ethylene glycol is 398°C (748°F).

Flammability Limits - % of vapor concentration at which product can ignite in presence of spark.
Lower Flammability Limit: 3.2%
Upper Flammability Limit: 15.3%

Hazardous Combustion Products: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

Extinguishing Media: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

Fire Fighting Instructions: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

Protective Equipment for Fire Fighters: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

6. ACCIDENTAL RELEASE MEASURES

Protect People: Material is moderately toxic when ingested. Take adequate precautions to keep people, especially children away from spill site. PVC-coated rubber gloves and monogoggles or face shield can be used during cleanup of spill site. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -18°C (0°F). Do not store near food, foodstuffs, drugs or potable water supplies.

Protect the Environment: Do not dump used product or diluted material into sewers, on the ground, or into any body of water.

Cleanup: Small spills: Soak up with absorbent material. Large spills: Dike and pump into suitable containers for disposal. Ensure compliance with all applicable statues that require notification of appropriate government officials.
7. HANDLING AND STORAGE

Steps to be Taken in Case Material is Released or Spilled: Eliminate all sources of ignition in vicinity of the spilled or released fluid.

Other Precautions: Use normal precautions in handling any combustible liquid. Keep container closed when not in use. Store away from heat or open flame. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -18°C (0°F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration any self-contained breathing apparatus with a full face piece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full face piece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Escape: Any air-purifying full face piece respirator (gas mask) with a chin-style or front- or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.

Skin Protection: Protective gloves recommended when prolonged skin contact cannot be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

Engineering Controls: Use general or local exhaust ventilation to meet TLV requirements.

EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
<th>Skin Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>100 mg/m³ CEILING ACGIH</td>
<td>Aerosol</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>125 mg/m³ CEILING OSHA-vacated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 ppm CEILING OSHA – vacated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 mg/m³ CEILING UCC</td>
<td>Aerosol and Vapor</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>50 ppm TWA8 AIHA WEEL</td>
<td>Aerosol and Vapor</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>10 mg/m³ TWA8 AIHA WEEL</td>
<td>Aerosol</td>
</tr>
</tbody>
</table>

In the Exposure Limits Chart above, if there is no specific qualifier (i.e., Aerosol) listed in the Form Column for a particular limit, the listed limit includes all airborne forms of the substance that can be inhaled.

A “blank” in the Skin column indicates that exposure by the cutaneous (skin) route is not a potential significant contributor to overall exposure.
9. PHYSICAL / CHEMICAL PROPERTIES

Boiling Point: 176°C (349°F)
Freeze Point: -15°C (5°F)
Specific Gravity (Water =1): 1.12
Pounds/gallon: 9.3
Vapor Pressure (mm of Hg) @ 20°C: <0.1
Vapor Density (air=1): Not established
Water Solubility: Complete
Evaporation Rate (BuAc = 1): Nil
% Volatile By Volume: 90-97
Appearance: Amber
Odor: Mild
pH (50% Water Solution): 8.0

10. STABILITY & REACTIVITY DATA

Stability: Stable
Conditions to Avoid: Keep away from flame
Incompatibility (Materials to Avoid): Strong acid or oxidizing agents
Hazardous Decomposition Products: Incomplete combustion may produce CO gas
Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Skin: The dermal LD50 has not been determined.

Ingestion: The lethal dose in humans is estimated to be 100 ml (3 ozs.). The oral LD50 for rats is in the 6000-13,000-mg/kg range.

Hydrated Inorganic Acid Sodium Salt: The lowest dose of a similar compound reported to produce death in humans was estimated to be 709 mg/kg body weight for a person weighing 150 pounds, this would be equivalent to swallowing about one-tenth (1/10) of a pound of the dry material in a short period of time.

Acute oral LD50s for a similar compound = 2,650 mg/kg (rats) 2,000 mg/kg (mice)

Mutagenicity (The Effects on Genetic Material): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

Significant Data with Possible Relevance to Humans: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to assess the effects of exposure of pregnant rats and made to aerosol at concentrations of 150, 1000 and 25000 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol percutaneous absorption of ethylene glycol from contaminated skin, or swallowing ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 25000 mg/m3) and developmental toxicity with minimal PEAK Long Life Antifreeze
evidence of teratogenicity (2500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity. The major route for producing developmental toxicity is perorally. Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

A chronic dietary feeding study of diethylene glycol with rats showed mild kidney injury at 1%, while concentrations of 2% and 4% caused more marked kidney injury. In addition, at 2% and 4% of diethylene glycol in the diet, some rats developed benign papillary tumors in the urinary bladder. These have been attributed to the presence of urinary bladder calcium oxalate stones. No evidence for carcinogenicity was found with a chronic skin-painting study with diethylene glycol in mice. The absence of a direct chemical carcinogenic effect addors with the results in vitro genotoxicity studies that show that it does not produce mutagenic or clastogenic effects. A feeding study employing up to 5.0% diethylene glycol in the diet failed to produce any teratogenic effects. In a mouse continuous breeding study with large doses of diethylene glycol in drinking water, there was evidence for reproductive toxicity at 3.5% (equivalent to 6.1 g/kg/day) as reduced number of litter, live pups per litter and live pup weight. No such effects were seen at 1.75% (approximately 3.05 g/kg/day). The relevance of these very high dosages to human health is uncertain. Pregnant rats receiving undiluted diethylene glycol by gavage over the period of organogenesis had toxic effects at 4.0 and 8.0 ml/kg/day as mortality, decreased body weight, decreased food consumption increased water consumption and increased liver and kidney weights. Fetotoxicity was seen only at these maternally toxic dosages. Decreased fetal body weight occurred at 8.0 ml/kg/day, and increased skeletal variants at 4.0 and 8.0 ml/kg/day. No embryotoxic or teratogenic effects were seen. Neither maternal toxicity nor fetotoxicity occurred at 1.0 ml/kg/day. In a study with mice also receiving undiluted diethylene glycol over the period of organogenesis, maternal toxicity occurred at 2.5 and 10.0 ml/kg/day, but not at 0.5 ml/kg/day. Definitive developmental toxicity was not seen in this species.

**ACUTE TOXICITY**

**Peroral:** The lethal dose in humans is estimated to be 3 oz. or 100 ml.
Rat: LD50 (6000 – 13000) mg/kg

**Percutaneous:**
Rabbit: LD50 -> 22270 mg/kg; 24 h occluded

**Inhalation:**
Rat: 8-hour exposure, substantially saturated vapor studies, dynamic generation method

**Mortality:** 0/6

**Inhalation:** Mist/vapor study, rat, at 170°C, 8-hour exposure = 2.2 mg/l

**Mortality:** 0/6

**Inhalation:**
Rat: 8-hour exposure, fog = 10000 ppm; 65° - 70°C

**Mortality:** 0/6

PEAK Long Life Antifreeze
IRRITATION

Skin:
Rabbit: 24-hour occluded contact, 0.5 ml
Results: Minor erythema and edema

Skin:
Human: Primary irritation patch test, 48-hour occluded, 0.2 ml
Results: Evidence of irritation

Eye:
Rabbit: 0.1 ml
Results: Minor transient iritis, conjunctival irritation with discharge

REPEATED EXPOSURE

In a 7-day dietary study with rats, a significant increase in kidney weights in females was observed at 5.0 gm/kg. The NOEL was 2.5 gm/kg.

In a 24-month dietary study with rats, increased mortality in males was observed at the highest dose, 1.0 gm/kg/day. There were multiple signs: mineralization of several organs, including the cardiac vessels, cardiac muscle, vas deferens, stomach and pulmonary vessels; cellular hyperplasia of the parathyroids, hemosiderosis of the spleen, myocardial fibrosis, portal fibrosis of the liver, bile duct hyperplasia and hydronephrosis and oxalate nephrosis of the kidneys. Ethylene glycol was not oncogenic.

In a 90-day dietary study with dogs, repeated exposures to 2.5 gm/kg resulted in acute renal failure and deaths. The NOAEL was 1.0 gm/kg.

SENSITIZATION (ANIMAL AND HUMAN STUDIES)

Repeated skin contact with ethylene glycol may, in a very small proportion of cases, cause sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material.

REPRODUCTIVE TOXICITY

A three-generation study indicated that ethylene glycol did not affect reproductive parameters at dietary concentrations up to 1.0 gm/kg/day in any generation.

CHRONIC TOXICITY AND CARCINOGENICITY

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of a carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

GENETIC TOXICOLOGY

In Vitro: Ethylene glycol was devoid of genotoxic activity in an Ames test, forward gene mutation and sister chromatid exchange (SCE) studies in Chinese Hamster Ovary (CHO) cells and an in vitro cytogenetics study.

In Vivo: Ethylene glycol by three different routes (intravenous, peroral and percutaneous) demonstrates apparent first-order pharmacokinetic behavior for the disposition in and the elimination from the plasma. Dose-dependent changes occur for the elimination of metabolites in the urine and as 14CO₂ after single doses for the intravenous and peroral, but not the percutaneous route. The hypothesis from literature sources exists that developmental toxicity is
caused by a metabolite of ethylene glycol, called glycolic acid, and not parent ethylene glycol. Under most conditions of ethylene glycol exposure, the glycolic acid metabolite is present in the blood in very low levels. However, it can become the major metabolite following large doses of ethylene glycol due to saturation of glycolic acid oxidation and/or elimination. When levels of this acidic metabolite exceed the capacity of maternal blood buffers to neutralize it, a maternal metabolic acidosis ensues, which has been hypothesized to be the true agent responsible for ethylene glycol induced developmental toxicity. Research suggests that ethylene glycol developmental toxicity is due to a dose-rate dependent toxicokinetic shift leading to glycolate accumulation and metabolic acidosis.

ADDITIONAL STUDIES

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations of 150, 1000 and 2500 mg/m³ for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 2500 mg/m³) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m³). The no-effects concentration (based on maternal toxicity) was 500 mg/m³. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

Movement & Partitioning: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.36. Henry's Law Constant (H) is 6.0E-08 atm-m3/mol. Bioconcentration factor (BCF) is 10 in golden orfe.

Degradation & Transformation: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD20/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.78 p.p. 10-Day biochemical oxygen demand (BOD10) is 1.06 p.p. 20-Day biochemical oxygen demand (BOD20) is 1.15 p.p. Theoretical oxygen demand (THOD) is calculated to be 1.29 p.p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline # 209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

Ecotoxicology: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 51000 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 27549 mg/L. Acute LC50 for rainbow trout (Oncorhynchus mykiss) is about 18000-46000 mg/L. Acute LC50 for guppy (Poecilia reticulata) is 49300 mg/L. Acute LC50 for water flea (Daphnia magna) is 46300-51100 mg/L. Acute LC50 for the cladoceran Ceriodaphnia dubia is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (Artemia salina) is 20000 mg/L. Acute
LC50 for golden orfe (Leuciscus idus) is greater than 10000 mg/L. Acute LC50 for goldfish (Carassius auratus) is greater than 5000 mg/L. Growth inhibition EC50 for green alga Selenastrum capricornutum is 9500-13000 mg/L.

**BOD (% Oxygen Consumption):**

<table>
<thead>
<tr>
<th></th>
<th>Day 5</th>
<th>Day 10</th>
<th>Day 15</th>
<th>Day 20</th>
<th>Day 30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>51%</td>
<td>80%</td>
<td></td>
<td></td>
<td>97%</td>
</tr>
</tbody>
</table>

**ECOTOXICITY**

**Toxicity to Micro-organisms:**
Bacterial / NA: 16 h; IC50
Result Value: >10000 mg/l

**Toxicity to Aquatic Invertebrates:**
Daphnia: 48 h; LC50
Result Value: >100000 mg/l

**Toxicity to Fish**
Fathead Minnow: 94 h; LC50
Result Value: 70000 mg/l

**FURTHER INFORMATION**

Chemical Oxygen Demand (COD) – Measured: 1.29 mg/mg
Theoretical Oxygen Demand (THOD) – Calculated: 1.30 mg/mg

Octanol/Water Partition Coefficient – Measured: -1.36

**13. DISPOSAL CONSIDERATIONS**

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

**14. TRANSPORT INFORMATION**

**U.S. DEPARTMENT OF TRANSPORTATION**

**Non-Bulk**
Not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package)

**Bulk**
Proper Shipping Name: Environmentally Hazardous Substance, LIQUID N.O.S. (ETHYLENE GLYCOL)
Technical Name: ETHYLENE GLYCOL
ID Number: UN 3082
Hazard Class: 9
Packing Group: PG III
Reportable Quantity: 5,000 lb.
15. REGULATORY INFORMATION

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
</tr>
</tbody>
</table>

United States - TSCA

Inventory: Listed

Water Standards: No data available

Atmospheric Standards: Clean Air Act (1990) - List of Hazardous Air Contaminants: listed

CERCLA: Reportable Quantity (RQ): 5,000 pounds (532 gallons)

OSHA Hazard Communication Standard: This product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III:

Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier 1 and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.

State Right-To-Know:

California - Exposure Limits - Ceilings: vapor-50 ppm ceiling; 125 mg/m3 ceiling
Director's List of Hazardous Substances: listed
Florida - Hazardous Substances List: listed
Massachusetts - Right-to-Know List: listed
Minnesota - Haz. Subs. List: listed (particulate and vapor)
New Jersey - Right-to-Know List (Total): Present greater than 1.0%
Pennsylvania Right-to-Know List: environmental hazard

Canadian Regulations: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required.

PEAK Long Life Antifreeze
WHMIS Information: D2A - material has potential toxic effects. Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): The normal consumer use of this product does not result in exposure to chemicals known to the state of California to cause Cancer and/or reproductive harm above the significant risk level for carcinogens or the maximum allowable dose levels for reproductive toxins. Warnings are not required for consumer packaging. However, industrial or other occupational use of this product at higher frequency and using larger quantities of this product may result in exposures exceeding these levels and are labeled accordingly.

California SCAQMD Rule 443.1 (South Coast Air Quality Management District Rule 443.1, Labeling of Materials Containing Organic Solvents):

VOC: Vapor pressure 0.06 mmHg at 20°C
1113.38 g/l

16. OTHER INFORMATION

Contact: Thomas Cholke
Phone: (847) 559-2225

Old World Industries, Inc. makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, Inc. as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, Inc. assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
Material Safety Data Sheet

1. MATERIAL AND COMPANY IDENTIFICATION

Material Name: Pennzoil Premium Grease Wheel Bearing 707L Red
Uses: Automotive and industrial grease.
Product Code: 001B1160
Manufacturer/Supplier: Shell Canada Products
400 - 4th Avenue S.W
Calgary AB T2P 0J4
Canada
Telephone: (+1) 8006611600
Fax: (+1) 4033848345
Emergency Telephone Number
CHEMTREC (24 hr): CHEMTREC (24 hr): (+1) 800-424-9300
Canutec (24 hr): CANUTEC (24 hr): (+1) 613-996-6666

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation description: A lubricating grease containing highly-refined mineral oils and additives.
The highly refined mineral oil contains <3% (w/w) DMSO-extract, according to IP346.
Refer to Chapter 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

WHMIS Class/Description: THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.
Physical Description: A lubricating grease containing highly-refined mineral oils and additives.
Routes of Exposure: Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.
Health Hazards: Not expected to be a health hazard when used under normal conditions. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis. High-pressure injection under the skin may cause serious damage including local necrosis. Used grease may contain harmful impurities.
Signs and Symptoms: Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection. Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhoea.
Safety Hazards: Not classified as flammable but will burn.
Environmental Hazards: Not classified as dangerous for the environment.
Material Safety Data Sheet

4. FIRST AID MEASURES

General Information : Not expected to be a health hazard when used under normal conditions.
Inhalation : No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop. Obtain medical attention even in the absence of apparent wounds.
Eye Contact : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician : Treat symptomatically. High pressure injection injuries require prompt surgical intervention and possibly steroid therapy, to minimise tissue damage and loss of function. Because entry wounds are small and do not reflect the seriousness of the underlying damage, surgical exploration to determine the extent of involvement may be necessary. Local anaesthetics or hot soaks should be avoided because they can contribute to swelling, vasospasm and ischaemia. Prompt surgical decompression, debridement and evacuation of foreign material should be performed under general anaesthetics, and wide exploration is essential.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point : Typical 274 °C / 525 °F (COC)
Upper / lower Flammability or Explosion limits : Typical 1 - 10 %(V)(based on mineral oil)
Auto ignition temperature : > 320 °C / 608 °F
Hazardous Combustion Products and Specific Hazards : Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.
Suitable Extinguishing Media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media : Do not use water in a jet.
Protective Equipment for Firefighters : Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.
Material Safety Data Sheet

Protective Measures: Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

Clean Up Methods: Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.

7. HANDLING AND STORAGE

General Precautions: Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling: Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage: Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers.

Recommended Materials: For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials: PVC.

Additional Information: Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Material</th>
<th>ACGIH TWA</th>
<th>ACGIH STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil mist, mineral</td>
<td>5 mg/m3</td>
<td>10 mg/m3</td>
</tr>
</tbody>
</table>

Consult local authorities for acceptable exposure limits within their jurisdiction.

Additional Information: Due to the product’s semi-solid consistency, generation of mists and dusts is unlikely to occur.

Exposure Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Material Safety Data Sheet

Respiratory Protection : No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].

Hand Protection : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye Protection : Wear safety glasses or full face shield if splashes are likely to occur.

Protective Clothing : Skin protection not ordinarily required beyond standard issue work clothes.

Monitoring Methods : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Environmental Exposure Controls : Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Red. Liquid at room temperature.</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight hydrocarbon.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Data not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Initial Boiling Point and</td>
<td>Data not available</td>
</tr>
<tr>
<td>Boiling Range</td>
<td></td>
</tr>
<tr>
<td>Dropping point</td>
<td>Data not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.5 Pa at 20 °C / 68 °F (estimated value(s))</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>Typical 0.905 at 15 °C / 59 °F</td>
</tr>
<tr>
<td>Density</td>
<td>Typical 890 kg/m3 at 15 °C / 59 °F</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Negligible.</td>
</tr>
<tr>
<td>n-octanol/water partition</td>
<td>&gt; 6 (based on information on similar products)</td>
</tr>
<tr>
<td>coefficient (log Pow)</td>
<td></td>
</tr>
</tbody>
</table>
Material Safety Data Sheet

Kinematic viscosity : Typical 107 mm²/s at 40 °C / 104 °F
Vapour density (air=1) : > 1 (estimated value(s))
Evaporation rate (nBuAc=1) : Data not available

10. STABILITY AND REACTIVITY
Stability : Stable.
Conditions to Avoid : Extremes of temperature and direct sunlight.
Materials to Avoid : Strong oxidising agents.
Hazardous : Hazardous decomposition products are not expected to form during normal storage.
Decomposition Products : Data not available
Hazardous Polymerisation : Data not available
Sensitivity to Mechanical Impact : Data not available
Sensitivity to Static Discharge : Data not available

11. TOXICOLOGICAL INFORMATION
Basis for Assessment : Information given is based on data on the components and the toxicology of similar products.
Routes of Exposure : Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.
Acute Oral Toxicity : Expected to be of low toxicity: LD₅₀ > 5000 mg/kg
Acute Dermal Toxicity : Expected to be of low toxicity: LD₅₀ > 5000 mg/kg
Acute Inhalation Toxicity : Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation : Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation : Expected to be slightly irritating.
Respiratory Irritation : Inhalation of vapours or mists may cause irritation.
Sensitisation : Not expected to be a skin sensitiser.
Repeated Dose Toxicity : Not expected to be a hazard.
Mutagenicity : Not considered a mutagenic hazard.
Carcinogenicity : Product contains mineral oils of types shown to be non-carcinogenic in animal skin-painting studies. Highly refined mineral oils are not classified as carcinogenic by the International Agency for Research on Cancer (IARC). Other components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity : Not expected to be a hazard.
Additional Information : Used grease may contain harmful impurities that have accumulated during use. The concentration of such harmful impurities will depend on use and they may present risks to health and the environment on disposal.
ALL used grease should be handled with caution and skin contact avoided as far as possible.
Material Safety Data Sheet

High pressure injection of product into the skin may lead to local necrosis if the product is not surgically removed.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

**Acute Toxicity**: Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non-toxic; LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract). Mineral oil is not expected to cause any chronic effects to aquatic organisms at concentrations less than 1 mg/l.

**Mobility**: Semi-solid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.

**Persistence/degradability**: Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment.

**Bioaccumulation**: Contains components with the potential to bioaccumulate.

**Other Adverse Effects**: Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

**Material Disposal**: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.

**Container Disposal**: Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

**Local Legislation**: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

**Canadian Road and Rail Shipping Classification**

This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail.
Material Safety Data Sheet

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Class/Description : THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

Inventory Status

EINECS : All components listed.
TSCA : All components listed.
DSL : All components listed.

16. OTHER INFORMATION

MSDS Version Number : 2.2
MSDS Effective Date : 2014-12-10
MSDS Revisions : A vertical bar (|) in the left margin indicates an amendment from the previous version.
MSDS Regulation : The content and format of this (M)SDS is in accordance with the Controlled Product Regulations.
MSDS Distribution : The information in this document should be made available to all who may handle the product.
Disclaimer : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.
1. Identification of the substance/preparation and of the company/undertaking

Product name: Permaflex
Mixing Concentrate Series 500
NP 452 pearl white

Product code: 4025331708278

Intended use of the substance/preparation
Coating for professional use

Company/Undertaking Identification
Producer/Supplier: SPIES HECKER GMBH
Street/Box: Postfach 40 02 07
Nat.-Code/Postal code/City: DE 50832 Köln
Telephone: +49 (0)2234/60 19-06

Information on SDS
Responsible Department: Regulatory Affairs
Telephone: +49 (0)202 529-2385
Telefax: +49 (0)202 529-2804
E-mail address: sds-service@deu.spieshecker.com

Emergency Information
Emergency telephone: +44 (0)845 600-6640
For further information, please also consult our Internet site
http://www.spieshecker.com

2. Hazards identification

The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

Human health hazards
Classification: Harmful; Irritant; Flammable;
Flammable. Harmful by inhalation and in contact with skin. Irritating to skin.

Special hazard instructions for humans and environment
Contains: methyl methacrylate; n-butyl methacrylate; 2-hydroxyethyl acrylate. May produce an allergic reaction.

3. Composition/information on ingredients

Chemical characterization
Mixture of synthetic resins, pigments, and solvents

Hazardous components
Substances presenting a health or environmental hazard within the meaning of the DSD 67/548/EEC refering to 1272/2008 annex VI

<table>
<thead>
<tr>
<th>EC-No.</th>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>Concentration</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>215-535-7</td>
<td>1330-20-7</td>
<td>xylene</td>
<td>25.00 - &lt; 35.00 %</td>
<td>R10; Xn; R20/21; Xi; R38</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>204-658-1</td>
<td>123-86-4</td>
<td>n-butyl acetate</td>
<td>7.00 - &lt; 10.00 %</td>
<td>R10; R66; R67</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>202-849-4</td>
<td>100-41-4</td>
<td>ethylbenzene</td>
<td>5.00 - &lt; 7.00 %</td>
<td>F; R11; Xn; R20</td>
</tr>
</tbody>
</table>
4. First aid measures

General advice
When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.

Inhalation
Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Skin contact
Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye contact
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

Ingestion
If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

5. Fire-fighting measures

Hazardous combustion products
Fire will produce dense black smoke containing hazardous combustion products (see heading 10). Exposure to decomposition products may be a hazard to health.

Fire and Explosion Hazards
Flammable liquid. Vapours may form explosive mixtures with air. Remove all sources of ignition.

Suitable extinguishing media
Universal aqueous film-forming foam, Carbon dioxide (CO2), Dry chemical, Water spray.

Extinguishing media which shall not be used for safety reasons
High volume water jet

Special Protective Equipment and Fire Fighting Procedures
Wear as appropriate: Full protective flameproof clothing. Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire, cool tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
6. Accidental release measures

Personal precautions
Keep in a well-ventilated place. Keep away from sources of ignition. Comply with safety directives (see chapters 7 and 8). Do not inhale vapours.

Environmental precautions
Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems.

Methods for cleaning up
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. Clean preferably with a detergent; avoid use of solvents.

7. Handling and storage

Handling
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

Safe handling advice
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Preparation may charge electrostatically: always use grounded leads when transferring from one container to another. Operators should wear antistatic footwear and clothing. No sparking tools should be used. Avoid skin and eye contact. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Comply with the health and safety at work laws. If material is a coating, do not sand, flame cut, braze or weld dry coating without an appropriate respirator or appropriate ventilation, and gloves.

Advice on protection against fire and explosion
Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Never use pressure to empty container: container is not a pressure vessel. Always keep in containers of same material as the original one. The accumulation of contaminated rags may result in spontaneous combustion. Good housekeeping standards and regular safe removal of waste materials will minimize the risks of spontaneous combustion and other fire hazards.

Storage
Requirements for storage areas and containers
Observe label precautions. Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. The storage and use of this product is subject to the requirements of the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR). Up to 50 litres of such highly flammable liquids may be stored in a work area provided they are kept in a fire-proof cupboard or bin. Larger quantities must be kept in a separate storeroom conforming to the structural requirements of the regulations. Further guidance is contained in the HSE ACOP L135, “Storage of Dangerous Substances:”

Advice on common storage
Store separately from oxidizing agents and strongly alkaline and strongly acidic materials.

8. Exposure controls/personal protection

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

Additional technical information on the plant
Provide adequate ventilation. This should be achieved by a good general extraction and -if practically feasible- by the use of a local exhaust ventilation. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn. Mask with gas filter, type A (EN 141)

National occupational exposure limits
Protective equipment
Personal protective equipment should be worn to prevent contact with eyes, skin or clothing.

Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection
The breakthrough time of gloves is unknown for the product itself. The glove material given is recommended on basis of the substances in the preparation.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Glove material</th>
<th>Glove thickness</th>
<th>Break through time</th>
</tr>
</thead>
<tbody>
<tr>
<td>xylene</td>
<td>Nitrile rubber</td>
<td>0.33 mm</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td>Viton (R) Ⓡ</td>
<td>0.7 mm</td>
<td>480 min</td>
</tr>
<tr>
<td>n-butyl acetate</td>
<td>Viton (R) Ⓡ</td>
<td>0.7 mm</td>
<td>10 min</td>
</tr>
<tr>
<td></td>
<td>Nitrile rubber</td>
<td>0.33 mm</td>
<td>30 min</td>
</tr>
</tbody>
</table>

The protective glove should be checked in each case for their work specific suitability (e.g. mechanical stability, product compatibility, and anti-static properties). When the intended use is for spray application a nitrile glove of the chemical resistance group 3 (e.g. Dermatril® glove) is to be used. After contamination, the glove has to be changed. If immersing the hands into the product is not avoidable (e.g. maintenance work) a butyl or fluorocarbon rubber glove should be used. When skin exposure may occur to materials specified in section 3 of this SDS, advice should be sought from the glove supplier as to appropriate type to use with this product and the permeation breakthrough times. Care should be taken when working with sharp edged articles as these can easily damage the gloves and make them ineffective. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Damaged gloves or those showing signs of wear should be replaced immediately.

Eye protection
Wear protective eyewear for protection against solvent spatter.
Skin and body protection
Wear suitable protective clothing. Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.

Hygiene measures
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use organic solvents!

Environmental exposure controls
Do not let product enter drains. For ecological information refer to section 12.

9. Physical and chemical properties

Appearance
Form: liquid  Colour: white  Odour: Characteristic Paint Odor

Important health, safety and environmental information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>23 °C</td>
<td></td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>370 °C</td>
<td>DIN 51794</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>125 °C</td>
<td></td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1 %</td>
<td></td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>12.3 %</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>4.4 hPa</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>1.13 g/cm³</td>
<td>DIN 53217/ISO 2811</td>
</tr>
<tr>
<td>Water solubility</td>
<td>partly miscible</td>
<td></td>
</tr>
<tr>
<td>Viscosity (23 °C)</td>
<td>&lt;0.20 s</td>
<td>ISO 2431-1993 6 mm</td>
</tr>
<tr>
<td>Solvent separation test</td>
<td>&lt;3%</td>
<td>ADR/RID</td>
</tr>
<tr>
<td>Content of volatile components (including water)</td>
<td>47.1%</td>
<td>Basis Vapour pressure &gt;= 0.01 kPa</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Stability
Stable

Conditions to avoid
Stable under recommended storage and handling conditions (see section 7).

Materials to avoid
Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Hazardous decomposition products
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen.

11. Toxicological information

General observations
There is no data available on the product. The product is classified and labelled in accordance with EC directives or respective national laws. See sections 3 and 15 for details.

Practical experience
Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effect such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Through skin resorption, solvents can cause some of the effects described here. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Contains methyl methacrylate, n-butyl methacrylate, 2-hydroxyethyl acrylate. May produce an allergic reaction.

<table>
<thead>
<tr>
<th>Toxicity Test Type</th>
<th>Value</th>
<th>Time</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>4,300 mg/kg</td>
<td></td>
<td>rat</td>
</tr>
</tbody>
</table>
12. Ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. The data in this section is consistent with data from chemical safety reports available at the date of revision. Product does not contain organic linked halogens contributing to AOX.

Acute toxicity aquatic invertebrates

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>212-454-9</td>
<td>2-hydroxyethyl acrylate</td>
<td>Water flea</td>
<td>LC50</td>
<td>0</td>
<td>0.78 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Acute and extended toxicity of fishes

<table>
<thead>
<tr>
<th>EINECS-No.</th>
<th>Chemical Name</th>
<th>Species</th>
<th>Type</th>
<th>Exposure time</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>212-454-9</td>
<td>2-hydroxyethyl acrylate</td>
<td>Pimephales promelas (fat-head minnow)</td>
<td>LC50</td>
<td>96 h</td>
<td>4.8 mg/l</td>
<td></td>
</tr>
<tr>
<td>212-454-9</td>
<td>2-hydroxyethyl acrylate</td>
<td>Cyprinodon variegatus (sheepshead minnow)</td>
<td>LC50</td>
<td>4 days</td>
<td>18 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Mobility
No information available.

Persistence and degradability
No information available.

Bioaccumulative potential
No information available.

Other adverse effects
The preparation was evaluated in accordance with the conventional method of the preparations directive 1999/45/EC, and it was not classified as dangerous for the environment, but it does contain environmentally dangerous materials. For details, see section 3.
13. Disposal considerations

Dispose of in accordance with local regulations.

**Product:**

**Recommendation:**

A disposal process that converts the waste into energy is recommended. If this is not possible the hazardous waste must be disposed of by incineration.

<table>
<thead>
<tr>
<th>Waste Key Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 01 11</td>
<td>waste paint and varnish containing organic solvents or other dangerous substances</td>
</tr>
</tbody>
</table>

**Uncleaned packaging:**

**Recommendation:**

Properly emptied containers are to be scrap processed or reconditioned. Improperly emptied containers are considered hazardous waste (waste key number 150110). Waste, including emptied containers, is controlled waste. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. If fully drained containers are compacted they can be regarded as Controlled Waste and disposed of in accordance with the requirements of the Control of Pollution Act 1974 and the Environmental Protection Act 1990 (GB), the Pollution Control and Local Government (NI) Order 1978 (NI) or of the EC (Waste) Regulations 1979 and the EC (Toxic & Dangerous Waste) Regulations 1982 (IRL).

14. Transport information

Transport only in accordance with the requirements of the Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labeling), ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport.

**ADR/RID (Land transport)**

- **Proper shipping name:** PAINT
- **UN-Number:** 1263
- **Hazard Class:** 3
- **Subsidiary Hazard Class:** Not applicable.
- **Packing group:** III
- **Tunnel restriction code:** D/E
- **Special Provision:** 640E
- **Hazchem:** 3Y

**IMDG (Sea transport)**

- **Proper shipping name:** PAINT
- **UN-Number:** 1263
- **Hazard Class:** 3
- **Subsidiary Hazard Class:** Not applicable.
- **Packing group:** III
- **Marine Pollutant:** N
- **EmS:** F-E,S-E

**ICAO/IATA (Air transport)**

- **Proper shipping name:** PAINT
- **UN-Number:** 1263
- **Hazard Class:** 3
- **Subsidiary Hazard Class:** Not applicable.
- **Packing group:** III

15. Regulatory information

The product is labelled according to the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 as amended (CHIP Regulations). The risk associated with the use of this product must be assessed in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations and the Dangerous Substances and Explosive Atmospheres Regulations.
Symbol and indication of hazard.

Xn  | Harmful
Contains  | xylene.

R-phrase(s)

R10  | Flammable.
R20/21  | Harmful by inhalation and in contact with skin.
R38  | Irritating to skin.

S-phrase(s)

S23  | Do not breathe vapour/spray.
S36/37  | Wear suitable protective clothing and gloves.
S38  | In case of insufficient ventilation, wear suitable respiratory equipment.

Contains: methyl methacrylate; n-butyl methacrylate; 2-hydroxyethyl acrylate. May produce an allergic reaction.

National legislation

This safety datasheet has been prepared according to British legislation.

The product is labeled according to the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 as amended (CHIP Regulations). The risk associated with the use of this product must be assessed in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations and the Dangerous Substances and Explosive Atmospheres Regulations.

16. Other information

Full text of R phrases with no. appearing in section 3

| R10  | Flammable.
| R11  | Highly flammable.
| R20  | Harmful by inhalation.
| R20/21  | Harmful by inhalation and in contact with skin.
| R21  | Harmful in contact with skin.
| R24  | Toxic in contact with skin.
| R34  | Causes burns.
| R36/37/38  | Irritating to eyes, respiratory system and skin.
| R36/38  | Irritating to eyes and skin.
| R37/38  | Irritating to respiratory system and skin.
| R38  | Irritating to skin.
| R43  | May cause sensitization by skin contact.
| R50  | Very toxic to aquatic organisms.
| R66  | Repeated exposure may cause skin dryness or cracking.
| R67  | Vapours may cause drowsiness and dizziness.

Information taken from reference works and the literature.

Substance No.

| CAS no: www.cas.org/EO/regsys.html
| EC no: http://ecb.jrc.it/esis/index.php?PGM=ein

Substances presenting a health or environmental hazard within the meaning of Directive 67/548/EEC.

http://ecb.jrc.it/existing-chemicals/
http://ecb.jrc.it/classification-labelling/
http://www.cdc.gov/niosh/ipcs/icstart.html
Other directives, limitations and prohibitory regulations

- Directive 76/769/EC
- Directive 98/24/EC
- Directive 90/394/EC
- Directive 793/93/EC
- Directive 1999/45/EC
- Directive 2006/8/EC

EUR-LEX: http://europa.eu.int/eur-lex/lex

Exposure limit for the pure substance

http://osha.europa.eu/OSHA

Training advice

- Directive 76/769/EC
- Directive 98/24/EC

Further information

The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user’s working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. Therefore, be construed as guaranteeing specific properties.

Report version

Version | Changes
--- | ---
8.0 | 1

Revision Date: 2009-05-13

Annex - Exposure scenarios

An exposure scenario is a description of use conditions which allows the risk of a substance or mixture to humans or the environment to be controlled. The exposure scenario is based on the initial scenarios of the chemicals used in this preparation. Up to the time of issuing this SDS there were no initial exposure scenarios available.

The product is only for industrial and/or professional use, not for any consumer use.
1. Identification

Product Name: SPECLT SSPR 6PK EPOXY GLOSS WHITE 12 OZ
Revision Date: 10/10/2014

Product Identifier: 7881830
Supercedes Date: New SDS

Product Use/Class: Appliance Epoxy/White Aerosol

Supplier: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL  60061
USA

Manufacturer: Rust-Oleum Corporation
11 Hawthorn Parkway
Vernon Hills, IL  60061
USA

Preparer: Regulatory Department

Emergency Telephone: 24 Hour Hotline: 847-367-7700

2. Hazard Identification

EMERGENCY OVERVIEW: Harmful if swallowed. Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Contents Under Pressure. Harmful if inhaled. May affect the brain or nervous system causing dizziness, headache or nausea. May cause eye, skin, or respiratory tract irritation. KEEP OUT OF REACH OF CHILDREN. Harmful if inhaled. Causes eye irritation. Use ventilation necessary to keep exposures below recommended exposure limits, if any. Vapor Harmful. Causes Eye, Skin, Nose, and Throat Irritation.

Classification

Symbol(s) of Product

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Signal Word</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Aerosol, category 1</td>
<td>H222</td>
</tr>
<tr>
<td>Flammable Liquid, category 1</td>
<td>H224</td>
</tr>
<tr>
<td>Acute Toxicity, Oral, category 5</td>
<td>H303</td>
</tr>
<tr>
<td>Acute Toxicity, Dermal, category 5</td>
<td>H313</td>
</tr>
<tr>
<td>Skin Irritation, category 2</td>
<td>H315</td>
</tr>
<tr>
<td>Eye Irritation, category 2</td>
<td>H319</td>
</tr>
<tr>
<td>Acute Toxicity, Inhalation, category 4</td>
<td>H322</td>
</tr>
<tr>
<td>STOT, single exposure, category 3, RTI</td>
<td>H335</td>
</tr>
<tr>
<td>STOT, single exposure, category 3, NE</td>
<td>H336</td>
</tr>
<tr>
<td>Aspiration Hazard, category 2</td>
<td>H305</td>
</tr>
<tr>
<td>Eye Irritation, category 2B</td>
<td>H320</td>
</tr>
<tr>
<td>Flammable Aerosol, category 1</td>
<td>H280</td>
</tr>
</tbody>
</table>

GHS PRECAUTIONARY STATEMENTS

P211 Do not spray on an open flame or other ignition source.
P220 Keep/Store away from clothing/.../combustible materials.
Keep cool.
Pressurized container: Do not pierce or burn, even after use.
Fight fire remotely due to the risk of explosion.
Keep out of reach of children.
Read label before use.
Do not handle until all safety precautions have been read and understood.
Keep only in original container.
Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Do not get in eyes, on skin, or on clothing.
Wash ... thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
In case of inadequate ventilation wear respiratory protection.
Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse cautiously with water for several minutes.
Fight fire with normal precautions from a reasonable distance.
Store in a dry place.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Protect from sunlight. Do no expose to temperatures exceeding 50°C/ 122°F.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/.../ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use ... for extinction.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container to ... Specific treatment (see ... on this label).
Wash with plenty of soap and water.
Take off contaminated clothing and wash before reuse.
If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
IF ON SKIN: Gently wash with plenty of soap and water.

### 3. Composition/Information On Ingredients

<table>
<thead>
<tr>
<th>HAZARDOUS SUBSTANCES</th>
<th>CAS-No.</th>
<th>Wt.% Range</th>
<th>GHS Symbols</th>
<th>GHS Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquefied Petroleum Gas</td>
<td>68476-86-8</td>
<td>25-50</td>
<td>GHS02</td>
<td>H225</td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>10-25</td>
<td>Proprietary</td>
<td></td>
</tr>
<tr>
<td>Medium Oil Alkyd</td>
<td>Proprietary</td>
<td>10-25</td>
<td>GHS02</td>
<td>H225</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>10-25</td>
<td>GHS02</td>
<td>H225</td>
</tr>
<tr>
<td>Xylene (mixed isomers)</td>
<td>1330-20-7</td>
<td>2.5-10</td>
<td>GHS02</td>
<td>H226</td>
</tr>
<tr>
<td>n-Butyl Acetate</td>
<td>123-86-4</td>
<td>2.5-10</td>
<td>GHS02</td>
<td>H225</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>2.5-10</td>
<td>GHS02-GHS07</td>
<td>H225-332</td>
</tr>
<tr>
<td>Barium Sulfate</td>
<td>7727-43-7</td>
<td>2.5-10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. First-aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20 °. F. - EXTREMELY FLAMMABLE LIQUID AND VAPOR! Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of NFPA Class I flammable liquids. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

8. Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Weight % Less Than</th>
<th>ACGIH TLV-TWA</th>
<th>ACGIH TLV-STEL</th>
<th>OSHA PEL-TWA</th>
<th>OSHA PEL-CEILING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquefied Petroleum Gas</td>
<td>68476-86-8</td>
<td>30.0</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>25.0</td>
<td>500 ppm</td>
<td>750 ppm</td>
<td>1000 ppm</td>
<td>N.E.</td>
</tr>
<tr>
<td>Medium Oil Alkyd</td>
<td>Proprietary</td>
<td>20.0</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
<td>15.0</td>
<td>10 mg/m3 (Total Dust)</td>
<td>N.E.</td>
<td>15 mg/m3 [Total Dust]</td>
<td>N.E.</td>
</tr>
<tr>
<td>Xylene (mixed isomers)</td>
<td>1330-20-7</td>
<td>10.0</td>
<td>100 ppm</td>
<td>150 ppm</td>
<td>100 ppm</td>
<td>N.E.</td>
</tr>
<tr>
<td>n-Butyl Acetate</td>
<td>123-86-4</td>
<td>10.0</td>
<td>150 ppm</td>
<td>200 ppm</td>
<td>150 ppm</td>
<td>N.E.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>5.0</td>
<td>20 ppm</td>
<td>125 ppm</td>
<td>100 ppm</td>
<td>N.E.</td>
</tr>
<tr>
<td>Barium Sulfate</td>
<td>7727-43-7</td>
<td>5.0</td>
<td>10 mg/m3</td>
<td>N.E.</td>
<td>15 mg/m3 [Total Dust]</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

PERSONAL PROTECTION
ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

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

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

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Physical State:</th>
<th>Odor Threshold:</th>
<th>Partition Coefficient, n-octanol/water:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Aerosolized Mist</td>
<td>Liquid</td>
<td>N.E.</td>
<td>No Information</td>
</tr>
<tr>
<td>Odor</td>
<td>Solvent Like</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freeze Point, °C</td>
<td>N.D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Slight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition Temp., °C</td>
<td>No Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Range, °C</td>
<td>-34 - 415</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>Does not Support Combustion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Faster than Ether</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Heavier than Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Limits, vol%</td>
<td>0.7 - 13.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash Point, °C</td>
<td>-105</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auto-ignition Temp., °C</td>
<td>No Information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>N.D.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120 ° F. Avoid all possible sources of ignition. Avoid contact with strong acid and strong bases.

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

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in the formula. (Ref: IARC Monograph, Vol. 93, 2010)May cause central nervous system disorder (e.g., narcosis involving a
loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

**PRIMARY ROUTE(S) OF ENTRY:** Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

**ACUTE TOXICITY VALUES**
The acute effects of this product have not been tested. Data on individual components are tabulated below:

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Vapor LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>13463-67-7</td>
<td>Titanium Dioxide</td>
<td>&gt;10000 mg/kg Rat</td>
<td>N.I.</td>
<td>N.I.</td>
</tr>
<tr>
<td>1330-20-7</td>
<td>Xylene (mixed isomers)</td>
<td>4300 mg/kg Rat</td>
<td>N.I.</td>
<td>47635 mg/L</td>
</tr>
<tr>
<td>123-86-4</td>
<td>n-Butyl Acetate</td>
<td>N.I.</td>
<td>&gt;17600 mg/kg Rabbit</td>
<td>N.I.</td>
</tr>
<tr>
<td>100-41-4</td>
<td>Ethylbenzene</td>
<td>3500 mg/kg Rat</td>
<td>15354 mg/kg Rabbit</td>
<td>17.2 mg/L</td>
</tr>
</tbody>
</table>

N.I. - No Information

**12. Ecological Information**

**ECOLOGICAL INFORMATION:** Product is a mixture of listed components. Product is a mixture of listed components.

**13. Disposal Information**

**DISPOSAL INFORMATION:** Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems.

**14. Transport Information**

<table>
<thead>
<tr>
<th></th>
<th>Domestic (USDOT)</th>
<th>International (IMDG)</th>
<th>Air (IATA)</th>
<th>TDG (Canada)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Number:</td>
<td>N.A.</td>
<td>1950</td>
<td>1950</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proper Shipping Name:</th>
<th>Paint Products in Limited Quantities</th>
<th>Aerosols</th>
<th>Aerosols</th>
<th>Paint Products in Limited Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
<td>N.A.</td>
<td>2.1</td>
<td>2.1</td>
<td>N.A.</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Limited Quantity:</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**15. Regulatory Information**

**U.S. Federal Regulations:**

**CERCLA - SARA Hazard Category**

This product has been reviewed according to the EPA ‘Hazard Categories’ promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

- Fire Hazard
- Pressure Hazard
- Acute Health Hazard
- Chronic Health Hazard

**Sara Section 313:**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

- **Chemical Name**
  - Xylene (mixed isomers)
  - Ethylbenzene

  **CAS-No.**
  - 1330-20-7
  - 100-41-4

**Toxic Substances Control Act:**

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA components exist in this product.
Inventory Information

<table>
<thead>
<tr>
<th>Country</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA (TSCA)</td>
<td>No Information</td>
</tr>
<tr>
<td>Canada (DSL)</td>
<td>No Information</td>
</tr>
<tr>
<td>Mexico (INISQ)</td>
<td>No Information</td>
</tr>
<tr>
<td>Europe (EINECS)</td>
<td>No Information</td>
</tr>
<tr>
<td>Japan (ENCSC)</td>
<td>No Information</td>
</tr>
<tr>
<td>Philippines (PICCS)</td>
<td>No Information</td>
</tr>
<tr>
<td>China (IECSC)</td>
<td>No Information</td>
</tr>
<tr>
<td>Australia (AICS)</td>
<td>No Information</td>
</tr>
<tr>
<td>Korea (KECI)</td>
<td>No Information</td>
</tr>
<tr>
<td>New Zealand (NZIOC)</td>
<td>No Information</td>
</tr>
</tbody>
</table>

CALIFORNIA PROPOSITION 65:

Warning: This product contains a substance known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium Dioxide</td>
<td>13463-67-7</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
</tr>
</tbody>
</table>

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

Warning: This product contains a substance known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
</tr>
</tbody>
</table>

International Regulations:

CANADIAN WHMIS:

This SDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

16. Other Information

HMIS RATINGS

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2*</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Personal Protection</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

CANADIAN WHMIS CLASS: AB5 D2A

NFPA RATINGS

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

VOLATILE ORGANIC COMPOUNDS, g/L: 500

MSDS REVISION DATE: 10/10/2014

REASON FOR REVISION: No Information

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined
Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225  Highly flammable liquid and vapour.
H226  Flammable liquid and vapour.
H332  Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS02

GHS07

Rust-Oleum Corporation believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. Rust-Oleum Corporation makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users’ consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.
1. MATERIAL AND COMPANY IDENTIFICATION

Material Name: Shell SPIRAX® GEAR OIL LS SAE 80W-90
Uses: Transmission oil.

Manufacturer/Supplier: SOPUS Products
PO BOX 4427
Houston, TX 77210-4427
USA

MSDS Request: 877-276-7285

Emergency Telephone Number
Spill Information: 877-242-7400
Health Information: 877-504-9351

2. COMPOSITION/INFORMATION ON INGREDIENTS

Blend of severely hydrotreated slack wax, synthetic esters, polyolefins and additives.

3. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>Emergency Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and Odour: May be dyed. Liquid at room temperature. Slight hydrocarbon.</td>
</tr>
<tr>
<td>Health Hazards: Not classified as dangerous for supply or conveyance.</td>
</tr>
<tr>
<td>Safety Hazards: Not classified as flammable but will burn.</td>
</tr>
<tr>
<td>Environmental Hazards: Not classified as dangerous for the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation: Under normal conditions of use, this is not expected to be a primary route of exposure.</td>
</tr>
<tr>
<td>Skin Contact: Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.</td>
</tr>
<tr>
<td>Eye Contact: May cause slight irritation to eyes.</td>
</tr>
<tr>
<td>Ingestion: Low toxicity if swallowed.</td>
</tr>
<tr>
<td>Other Information: Used oil may contain harmful impurities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signs and Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas. Ingestion may result in nausea, vomiting and/or diarrhea.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aggravated Medical Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: Skin.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified as dangerous for the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous</td>
</tr>
</tbody>
</table>

Print Date 04/30/2011  MSDS_US

4. FIRST AID MEASURES

General Information: Not expected to be a health hazard when used under normal conditions.
Inhalation: No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
Skin Contact: Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.
Eye Contact: Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion: In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.
Advice to Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Flash point: Typical 350 °C / 662 °F (COC)
Upper / lower Flammability or Explosion limits: Typical 1 - 10 % (V)
Auto ignition temperature: > 320 °C / 608 °F
Specific Hazards: Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide. Unidentified organic and inorganic compounds.

Suitable Extinguishing Media: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media: Do not use water in a jet.
Protective Equipment for Firefighters: Proper protective equipment including breathing apparatus must be worn when approaching a fire in a confined space.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe all relevant local and international regulations.

Protective measures: Avoid contact with skin and eyes. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Clean Up Methods: Slippery when split. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay,
Material Safety Data Sheet

Additional Advice: Sand or other suitable material and dispose of properly.

Local authorities should be advised if significant spillages cannot be contained.

7. HANDLING AND STORAGE

General Precautions: Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling: Avoid prolonged or repeated contact with skin. Avoid inhaling vapour and/or mists. When handling product in drums, safety footwear should be worn and proper handling equipment should be used.

Storage: Keep container tightly closed and in a cool, well-ventilated place. Use properly labelled and closeable containers. Storage Temperature: 0 - 50 °C / 32 - 122 °F

Recommended Materials: For containers or container linings, use mild steel or high density polyethylene.

Unsuitable Materials: PVC.

Additional Information: Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Contains no components with occupational exposure limit values

Exposure Controls: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

Personal Protective Equipment: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection: No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65 °C (149 °F)].

Hand Protection: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye Protection: Wear safety glasses or full face shield if splashes are likely to occur.

Protective Clothing: Skin protection not ordinarily required beyond standard issue work clothes.

Monitoring Methods: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Environmental Exposure Controls: Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: May be dyed. Liquid at room temperature.
Odour: Slight hydrocarbon.
pH: Not applicable.
Initial Boiling Point and Boiling Range: > 280 °C / 536 °F estimated value(s)
Pour point: Typical -10 °C / 14 °F
Flash point: Typical 350 °C / 662 °F (COC)
Upper / lower Flammability or Explosion limits: Typical 1 - 10 %(V)
Auto-ignition temperature: > 320 °C / 608 °F
Vapour pressure: < 0.5 Pa at 20 °C / 68 °F (estimated value(s))
Specific gravity: Typical 0.885
Density: Typical 7.51 g/cm3
Water solubility: Negligible.
n-octanol/water partition coefficient (log Pow): > 6 (based on information on similar products)
Kinematic viscosity: Typical 400 mm2/s at 40 °C / 104 °F
Vapour density (air=1): > 1 (estimated value(s))
Evaporation rate (nBuAc=1): Data not available
10. STABILITY AND REACTIVITY

Stability : Stable.
Conditions to Avoid : Extremes of temperature and direct sunlight.
Materials to Avoid : Strong oxidising agents.
Hazardous Decomposition : Hazardous decomposition products are not expected to form during normal storage.

11. TOXICOLOGICAL INFORMATION

Basis for Assessment : Information given is based on data on the components and the toxicology of similar products.
Acute Oral Toxicity : Expected to be of low toxicity: LD50 > 5000 mg/kg, Rat
Acute Dermal Toxicity : Expected to be of low toxicity: LD50 > 5000 mg/kg, Rabbit
Acute Inhalation Toxicity : Not considered to be an inhalation hazard under normal conditions of use.
Skin Irritation : Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Eye Irritation : Expected to be slightly irritating.
Respiratory Irritation : Inhalation of vapours or mists may cause irritation.
Sensitisation : Not expected to be a skin sensitiser.
Repeated Dose Toxicity : Not expected to be a hazard.
Mutagenicity : Not considered a mutagenic hazard.
Carcinogenicity : Components are not known to be associated with carcinogenic effects.
Reproductive and Developmental Toxicity : Not expected to be a hazard.
Additional Information : Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

12. ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity : Poorly soluble mixture. May cause physical fouling of aquatic organisms. Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l (to aquatic organisms) (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).
Mobility : Liquid under most environmental conditions. Floats on water. If it enters soil, it will adsorb to soil particles and will not be mobile.
Persistence/degradability : Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegradable, but the product
Material Safety Data Sheet

Bioaccumulation: Contains components with the potential to bioaccumulate.
Other Adverse Effects: Product is a mixture of non-volatile components, which are not expected to be released to air in any significant quantities. Not expected to have ozone depletion potential, photochemical ozone creation potential or global warming potential.

13. DISPOSAL CONSIDERATIONS

Material Disposal: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses.

Container Disposal: Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

Local Legislation: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

US Department of Transportation Classification (49CFR)
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

IMDG
This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)
This material is not classified as dangerous under IATA regulations.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Federal Regulatory Status

Notification Status

EINECS: All components listed.
TSCA: All components listed.
DSL: All components listed.

SARA Hazard Categories (311/312)
Material Safety Data Sheet

No SARA 311/312 Hazards.

State Regulatory Status

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)

This material does not contain any chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. OTHER INFORMATION

| NFPA Rating (Health, Fire, Reactivity) | : 0, 1, 0 |
| MSDS Version Number | : 2.0 |
| MSDS Effective Date | : 07/03/2008 |
| MSDS Revisions | : A vertical bar (|) in the left margin indicates an amendment from the previous version. |
| MSDS Regulation | : The content and format of this MSDS is in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200. |
| MSDS Distribution | : The information in this document should be made available to all who may handle the product. |
| Disclaimer | : The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty or guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product. |
1 Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name**: Slime SDS Tire Sealant
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  No further relevant information available.
- **Application of the substance / the mixture**: Sealant
- **1.3 Details of the supplier of the Safety Data Sheet**
  **Manufacturer/Supplier:**
  (North America)
  Accessories Marketing, Inc.
  125 Venture Drive, Suite 210, San Luis Obispo, CA 93401
  Tel (805) 489-0490

  (Europe)
  TERRA-S Automotive Systems GmbH
  Carl-Benz Str. 10, 88696 Owingen, Germany
  Tel 0049 7551-9200-100

  Only representative of a non-Community manufacturer
  H2 Compliance
  Rubicon Building, CIT Campus, Bishopstown, Cork, Ireland
  Tel +353 21 486 8122
  E-Mail info@h2compliance.com
- **1.4 Emergency telephone number:**
  ChemTel Inc.
  (800)255-3924, +1 (813)248-0585

2 Hazards identification

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**
    The product is not classified as hazardous according to GHS regulations.
    The product is not classified as hazardous according to the CLP regulation.

  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
  - **Information concerning particular hazards for human and environment:**
    The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  - **Classification system:**
    The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
    The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

- **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008** Not Regulated
  - **Hazard pictograms** Not Regulated

(Contd. on page 2)
Trade name: Slime SDS Tire Sealant

- **Signal word**: Not Regulated
- **Hazard-determining components of labelling**: None.
- **Hazard statements**: Not Regulated
- **Hazard description**:
  - **WHMIS-symbols**: Not hazardous under WHMIS.
- **NFPA ratings (scale 0 - 4)**
  - Health = 0
  - Fire = 1
  - Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  - Health
  - Fire
  - Reactivity

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FIRE</th>
<th>REACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

- **HMIS Long Term Health Hazard Substances**: None of the ingredients is listed.

- **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT**: Not applicable.
    - **vPvB**: Not applicable.

### 3 Composition/information on ingredients

- **3.2 Mixtures**
  - **Description**: Mixture of substances listed below with nonhazardous additions.
  - **Dangerous components**: None in reportable quantities.
  - **Additional information**: For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

- **4.1 Description of first aid measures**
  - **General information**: No special measures required.
  - **After inhalation**: Supply fresh air; consult doctor in case of complaints.
  - **After skin contact**: Clean with water and soap. If skin irritation continues, consult a doctor.
  - **After eye contact**: Remove contact lenses if worn. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - **After swallowing**: Do not induce vomiting; call for medical help immediately.

- **4.2 Most important symptoms and effects, both acute and delayed**
  - Gastric or intestinal disorders.
  - Dizziness

(Contd. on page 3)
Safety Data Sheet
generated according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Printing date 22.01.2014

Trade name: Slime SDS Tire Sealant

Coughing

- **Hazard**s No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
  No further relevant information available.

## 5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
  - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**
  Danger of receptacles bursting because of high vapour pressure when heated.
- **5.3 Advice for firefighters**
  - **Protective equipment:** Wear self-contained respiratory protective device.
  - **Additional information** Cool endangered receptacles with water spray.

## 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - Ensure adequate ventilation
- **6.2 Environmental precautions:**
  - Do not allow to enter sewers/ surface or ground water.
  - Dilute with plenty of water.
- **6.3 Methods and material for containment and cleaning up:**
  - Allow to solidify. Pick up mechanically.
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**
  - No dangerous substances are released.
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

## 7 Handling and storage

- **7.1 Precautions for safe handling** No special measures required.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
  - **Storage:**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:**
    - Protect from contamination.
    - Keep container tightly sealed.

(Contd. on page 4)
8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- 8.1 Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - DNELs No further relevant information available.
  - PNECs No further relevant information available.
  - Additional information: The lists valid during the making were used as basis.
- 8.2 Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures: No further relevant information available.
    - Respiratory protection: Not required.
    - Protection of hands: Not required.
    - Eye protection: Safety glasses
  - Body protection: Not required.
- Limitation and supervision of exposure into the environment No special requirements.
- Risk management measures No special requirements.

9 Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
  - General Information
  - Appearance:
    - Form: Pasty
    - Colour: Different according to colouring
    - Odour: Light
    - Odour threshold: Not determined.
  - pH-value at 20 °C: 8,8 ± 1,0
  - Change in condition
    - Melting point/Melting range: Not Determined.
    - Boiling point/Boiling range: > 104 °C
  - Flash point: > 94 °C
  - Flammability (solid, gaseous): Not applicable.
Trade name: Slime SDS Tire Sealant

- Ignition temperature: > 260 °C
- Decomposition temperature: Not determined.
- Self-igniting: Product is not self-igniting.
- Danger of explosion: Product does not present an explosion hazard.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower:</td>
<td>0.9 Vol %</td>
</tr>
<tr>
<td>Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C:</td>
<td>23 hPa</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>1.16 ± 0.1 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water</td>
<td>Fully miscible.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>9.2 Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- 10.1 Reactivity
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided:
  No decomposition if used and stored according to specifications.
- 10.3 Possibility of hazardous reactions
  Reacts with alkali, amines and strong acids.
  Reacts with strong oxidizing agents.
- 10.4 Conditions to avoid
  No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products: Possible in traces.

11 Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity:
  - Primary irritant effect:
    - on the skin: No irritant effect.
    - on the eye: No irritating effect.
Trade name: Slime SDS Tire Sealant

- Sensitization: No sensitizing effects known.
- Additional toxicological information:
  The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
  When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

12 Ecological information

- 12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability The product is biodegradable after prolonged adaptation.
- 12.3 Bioaccumulative potential No further relevant information available.
- 12.4 Mobility in soil No further relevant information available.
- Ecotoxic effects:
- Remark: Due to mechanical actions of the product (e.g. agglutinations) damages may occur.
- Additional ecological information:
- General notes:
  This statement was deduced from products with a similar structure or composition.
  Avoid transfer into the environment.
  Due to available data on eliminability/decomposition and bioaccumulation potential a prolonged damage of the environment is unlikely.
  Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
  Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- 12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- 12.6 Other adverse effects No further relevant information available.

13 Disposal considerations

- 13.1 Waste treatment methods
- Recommendation
  Smaller quantities can be disposed of with household waste.
  Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
  Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
- Uncleaned packaging:
  Recommendation: Disposal must be made according to official regulations.
  Recommended cleansing agents: Water, if necessary together with cleansing agents.

(Contd. on page 7)
## 14 Transport information

<table>
<thead>
<tr>
<th>14.1 UN-Number</th>
<th>DOT, ADR, ADN, IMDG, IATA</th>
<th>Not Regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Class Not Regulated</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>DOT, ADR, IMDG, IATA</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>14.5 Environmental hazards:</td>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>14.6 Special precautions for user</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

## 15 Regulatory information

| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | United States (USA) | SARA |
| Section 355 (extremely hazardous substances): | None of the ingredients is listed. |
| Section 313 (Specific toxic chemical listings): | None of the ingredients is listed. |
| TSCA (Toxic Substances Control Act): | All ingredients are listed. |
| Proposition 65 (California): | Chemicals known to cause cancer: | None of the ingredients is listed. |
| | Chemicals known to cause reproductive toxicity for females: | None of the ingredients is listed. |
| | Chemicals known to cause reproductive toxicity for males: | None of the ingredients is listed. |
| | Chemicals known to cause developmental toxicity: | None of the ingredients is listed. |
Safety Data Sheet
according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and
GHS

Printing date 22.01.2014
Revision: 22.01.2014

Trade name: Slime SDS Tire Sealant

- Carcinogenic Categories
  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.
  - IARC (International Agency for Research on Cancer)
    None of the ingredients is listed.
  - TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients is listed.
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients is listed.

- Canada
  - Canadian Domestic Substances List (DSL)
    All ingredients are listed.
  - Canadian Ingredient Disclosure list (limit 0.1%)
    None of the ingredients is listed.
  - Canadian Ingredient Disclosure list (limit 1%)
    None of the ingredients is listed.

- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  GHS: Globally Harmonized System of Classification and Labelling of Chemicals
  ACGIH: American Conference of Governmental Industrial Hygienists
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  WHMIS: Workplace Hazardous Materials Information System (Canada)
  DNEL: Derived No-Effect Level (REACH)
  PNEC: Predicted No-Effect Concentration (REACH)

- Sources
  SDS Prepared by:
  ChemTel Inc.
  1305 North Florida Avenue
  Tampa, Florida USA 33602-2902
  Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
  Website: www.chemtelinc.com
1. CHEMICAL PRODUCT AND COMPANY INFORMATION

<table>
<thead>
<tr>
<th>Product code</th>
<th>DL1460</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>SLUFF</td>
</tr>
<tr>
<td>Recommended Use</td>
<td>Coating</td>
</tr>
<tr>
<td>Supplier</td>
<td>Drummond, A Lawson Brand</td>
</tr>
<tr>
<td></td>
<td>Lawson Products, Inc.</td>
</tr>
<tr>
<td></td>
<td>1666 East Touhy Avenue</td>
</tr>
<tr>
<td></td>
<td>Des Plaines, IL 60018</td>
</tr>
<tr>
<td></td>
<td>1-866-529-7664</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>(888) 426-4851</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

Aggravated Medical Conditions

None Known

Principal Routes of Exposure

Eyes. Skin. Inhalation. Ingestion.

Potential health effects

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Contact with eyes may cause irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>May cause the following effects: . Skin Irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Lung damage. Breathing large amounts may be harmful. Misuse by deliberately concentrating vapors and inhaling contents can be harmful or fatal.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Ingestion may cause irritation to mucous membranes. Irritating to mouth, throat and stomach. Irritation of the esophagus. Harmful or fatal if swallowed.</td>
</tr>
</tbody>
</table>

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent</td>
<td>8052-41-3</td>
<td>90-98</td>
</tr>
<tr>
<td>Proprietary Ingredients</td>
<td>Proprietary</td>
<td>2-8</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye contact

Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Do not use ointment. Seek medical attention immediately.

Skin contact

Remove contaminated clothing and footwear. Wash off immediately with plenty of water. If skin surface is damaged: Apply sterile dressing if needed. Seek medical attention. Do not use ointment. If skin surface is not damaged: Wash off immediately with soap and plenty of water. Seek medical attention if irritation persists.

Ingestion

Do Not induce vomiting. Do not give anything by mouth. Do not leave victim unattended. Seek medical attention immediately.

Inhalation

Remove to fresh air. Provide oxygen if breathing is difficult. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

Flash point °C

41-45

Flash point °F

107-113

Method

Tag Closed Cup

Autoignition temperature °C

Not Applicable

Autoignition temperature °F

Not Applicable

Flammability Limits (% in Air)

Upper

No data available

Lower

No data available

Suitable extinguishing media


Special protective equipment for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire and Explosion Hazards

Combustible liquid. Vapors of this product may develop a flammable atmosphere in confined areas. Flash back possible over considerable distance. Vapors are heavier than air and may travel along the ground to an ignition source distant from material handling area. Possible ignition sources include pilot lights, flames, lighted cigarettes, heating elements, electric motors, sparks from electrical switches. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. Do not use direct water stream. Product may float on surface and ignite.

Sensitivity to shock

No information available.

Sensitivity to static discharge

Yes. Take precautionary measures against static discharges.
6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up
Fire Hazard. Risk of explosion. Evacuate area of unprotected and unnecessary personnel. Personnel should wear appropriate protective equipment. Follow all precautions for handling. Please refer to appropriate sections of MSDS for additional information. A vapor suppressing foam may be used to reduce vapors. Eliminate all sources of ignition. Use caution as spill may create a slip hazard. Do not allow product to reach sewage system, soil, surface or ground water, or any water course. Notify proper authorities if entry occurs. Soak up excess with absorbent material. Clay or soil. Avoid using sparking tools. Recovered non-usable material may be regulated by US EPA as a hazardous waste due to its ignitability (D001) and/or its toxic (D018) characteristics. It is the responsibility of the user to determine if the material is a RCRA "hazardous waste" at the time of disposal. Dispose of absorbent in accordance with local, state and federal regulations.

7. HANDLING AND STORAGE

Handling
Use in a well ventilated area. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Do not breathe vapors or spray mist. Do not reuse containers. Containers can contain explosive vapors or residues. Keep out of reach of children.

Storage

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL (TWA)</th>
<th>OSHA PEL (Ceiling)</th>
<th>ACGIH OEL (TWA)</th>
<th>ACGIH OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent</td>
<td>500 ppm</td>
<td>-</td>
<td>100 ppm</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2900 mg/m³</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Proprietary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingredients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ventilation and Environmental Controls
Adequate ventilation should be provided to keep exposure levels below current acceptable exposure limits.

Hygiene measures
General industrial hygiene practice.

Respiratory protection
Wear a NIOSH approved dust/mist respirator.

Hand Protection
Protective gloves.

Eye protection
Wear safety glasses with side shields.

Skin and body protection
Long sleeved clothing.

Other Protective Equipment
A safety shower and eye wash station should be available for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild Solvent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>pH</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.79 @ 60°F</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>4.8 (air=1)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Slightly soluble</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>(n-octanol/water)</td>
<td></td>
</tr>
<tr>
<td>Boiling point/range °C</td>
<td>158-179</td>
</tr>
<tr>
<td>Boiling point/range °F</td>
<td>318-355</td>
</tr>
<tr>
<td>Melting point/range °C</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Melting point/range °F</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flash point °C</td>
<td>41-45</td>
</tr>
<tr>
<td>Flash point °F</td>
<td>107-113</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable.

Conditions to avoid
Avoid extreme heat.

Incompatibility

Hazardous Decomposition Products
Carbon dioxide. Carbon monoxide.

Polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Component Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LC50 (inhalation, rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Proprietary Ingredients</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Synergistic Products
None known

Potential health effects

- Sensitization
  None known
- Chronic toxicity
  None known
- Mutagenic effects
  None known
- Teratogenic effects
  None known
- Reproductive toxicity
  None known
- Target Organ Effects
  See Section 2
- Carcinogenic effects
  See table below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH OEL - Carcinogens</th>
<th>IARC</th>
<th>NTP - Known Carcinogens</th>
<th>NTP - Suspected Human Carcinogens</th>
<th>OSHA RTK Carcinogens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Proprietary Ingredients</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Aquatic toxicity
Harmful to aquatic organisms.

Ecotoxicity effects
Environmental hazard Very toxic to aquatic organisms

13. DISPOSAL CONSIDERATIONS

Disposal Information
Recovered non-useable material may be regulated by US EPA as a hazardous waste due to its ignitability (D001) and/or its toxic (D018) characteristics. It is the responsibility of the user to determine if the material is a RCRA "hazardous waste" at the time of disposal. Dispose in accordance with federal, state, and local regulations.

Waste from residues / unused products
As supplied, this product is a RCRA Hazardous Waste. Do not reuse container. Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

DOT
Not Regulated when shipped in containers <119 gallons. UN1268 Petroleum distillates, n.o.s., Class 3, PGIII

TDG
Not Regulated when shipped in containers <119 gallons.

15. REGULATORY INFORMATION

US EPA SARA 313
This product contains no listed chemicals subject to reporting

State Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey - RTK</th>
<th>Pennsylvania - RTK</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent</td>
<td>Listed</td>
<td>Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Proprietary Ingredients</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EINECS</th>
<th>DSL</th>
<th>NDSL</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Proprietary Ingredients</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

CPR
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all of the information required by the Controlled Product Regulations

16. OTHER INFORMATION

NFPA

- Health - 1
- Flammability - 2
- Reactivity - 0

Prepared By
V. Shargorodsky, Regulatory Affairs Engineer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.
1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: STIHL 2-CYCLE HP ENGINE OIL
Product Code: F-3A, 0781-319-8008, 0781-319-8009, 0781-319-8010, 0781-319-8044, 0781-319-8045, 0781-319-8051, 0781-319-8088, 7010-871-0177, 7010-871-0208
Recommended Use: 2-cycle Engine Oil
Manufactured by: Omni Specialty Packaging
10399 S. Hwy 1
Shreveport, LA 71115
Phone: 1 (318) 524-1100
Emergency Telephone Number: CHEMTREC
1 (800) 424-9300

2. HAZARDS IDENTIFICATION

Appearance: Blue
Physical State: Liquid
Odor: Mild

Potential Health Effects
Principal Routes of Exposure: Eye contact, Skin contact, Inhalation, Ingestion

Acute Toxicity
- Eyes: Practically non-irritating to the eye upon direct contact.
- Skin: Substance minimally irritating upon direct contact.
- Inhalation: Low hazard at standard temperatures and pressures. Inhalation of oil mist or fumes can cause irritation of the nose, throat and upper respiratory tract
- Ingestion: Do not ingest. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
On rare occasions, prolonged and repeated exposure to oil mist poses a risk of pulmonary disease such as chronic lung inflammation. This condition is usually asymptomatic as a result of repeated small aspirations.

Prolonged exposure may cause chronic effects.

Personnel with pre-existing skin disorders should avoid contact with this product.

See Section 12 for additional Ecological Information.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Distillates, Hydrotreated Heavy Paraffinic</td>
<td>64742-54-7</td>
<td>10-20</td>
</tr>
<tr>
<td>Petroleum Distillates, Solvent Dewaxed heavy Paraffinic</td>
<td>64742-65-0</td>
<td>70-80</td>
</tr>
<tr>
<td>Additive Package</td>
<td>Mixture</td>
<td>5-10</td>
</tr>
<tr>
<td>Dye</td>
<td>Mixture</td>
<td>0-0.1</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Eye Contact**
Flush with large amounts of water for 15 minutes. Get medical attention if eye irritation develops or persists. If material is hot, treat for thermal burns and take victim to the hospital immediately.

**Skin Contact**
Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Get medical attention immediately if skin discoloration occurs.

**Inhalation**
This material is not expected to present an inhalation exposure at ambient conditions

**Ingestion**
Never give anything by mouth to an unconscious person. Do not induce vomiting. Get immediate medical attention or advice.

**Notes to Physician**
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties**
Not flammable.

**Flash Point**
170°F

**Suitable Extinguishing Media**

**Unsuitable Extinguishing Media**
Not Available

**Hazardous Combustion Products**
Not Available

**Explosion Data**
- Sensitivity to Mechanical Impact: Not sensitive.
- Sensitivity to Static Discharge: Not sensitive.

**Protective Equipment and Precautions for Firefighters**
Wear positive pressure self-contained breathing apparatus (SCBA). Use water to cool containers exposed to flames. Structural firefighters’ protective clothing will only provide limited protection. Mist or sprays may be flammable below the product normal flash point.
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Avoid contact with skin, eyes, and clothing. Ensure adequate ventilation. If spilled, take caution, as material can cause surfaces to become very slippery.

Methods for Containment
Dike far ahead of liquid spill for later disposal.

Methods for Cleaning Up
Pick up free liquid for recycle and/or disposal. Residual liquid and/or solid can be absorbed on inert material.

Evacuation Procedures
Large Spill
Consider initial downwind evacuate for at least 300 meters (1000 feet).
If tank, rail car or tank car is involved in a fire, isolate for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire
Spills that enter a water body must be reported immediately to the USEPA’s National Response Center at (800)424-8802. Check with your local and state regulators regarding their reporting requirements.

7. HANDLING AND STORAGE

Handling
Do not pressure, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode. See NFPA 30 and OSHA 1910.106 – flammable and combustible liquids.

Storage
Store away from heat, sparks, open flame, or strong oxidizing agents in closed and properly labeled containers. Empty containers retain product residue (liquid, and/or vapor) and can be dangerous.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Distillates, Hydrotreated Heavy Paraffinic 64742-54-7</td>
<td>5 mg/m3 8 hour(s). Form: Mist</td>
<td>5 mg/m3 8 hour(s). Form: Mist</td>
<td>2,500 mg/m3</td>
</tr>
<tr>
<td>Petroleum Distillates, Solvent Dewaxed heavy Paraffinic 64742-65-0</td>
<td>5 mg/m3 8 hour(s). Form: Mist</td>
<td>5 mg/m3 8 hour(s). Form: Mist</td>
<td>2,500 mg/m3</td>
</tr>
</tbody>
</table>

Engineering Measures
Additional area ventilation or local exhaust may be required to maintain air concentrations below recommended limits.

Personal Protective Equipment

Eye/Face Protection
Safety glasses with side-shields. If splashes are likely to occur, wear goggles. Full face-shield to be worn during emergencies.

Skin and Body Protection
As needed to prevent repeated skin contact. Solvent resistant gloves should be used if needed.

Respiratory Protection
Not normally needed. During emergencies wear respirator.

Hygiene Measures
Remove and wash contaminated clothing before re-use. Wash hands before

Page 3 of 6
breaks and immediately after handling the product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Blue</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Flash Point</td>
<td>170°F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>N/A</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.87</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>N/A</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not Determined</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild Petroleum Odor</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>N/A</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>0°F</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility</td>
<td>Negligible</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Stability**
Stable under recommended storage conditions.

**Incompatible Products**
Open Flame and strong oxidizing agents.

**Conditions to Avoid**
Heat, flames, and sparks.

**Hazardous Decomposition Products**
Decomposition and combustion products may include smoke, carbon dioxide, carbon monoxide, and toxic fumes.

**Hazardous Polymerization**
None under normal processing.

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

**Product Information**
Test on similar materials show a low order of acute oral and dermal toxicity.

**Acute Oral Effects**
Test on similar materials indicates low order of acute toxicity.

**Acute Inhalation Effects**
Low acute toxicity expected on inhalation.

**Skin Effects**
Practically non-toxic if absorbed. Other similar highly refined products have not shown skin tumors in mouse skin painting studies.

**Eye Irritation**
Minimal irritation on contact. Eye irritation slightly or practically non-irritating base on similar products.

**Component Information**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Distillates, Hydrotreated Heavy Paraffinic 64742-54-7</td>
<td>Rat &gt;2000 mg/kg</td>
<td>Rabbit &gt;2000 mg/kg</td>
<td>Rat &gt; 2.18 mg/L 4 hours</td>
</tr>
<tr>
<td>Petroleum Distillates, Solvent Dewaxed heavy Paraffinic 64742-65-0</td>
<td>Rat &gt;2000 mg/kg</td>
<td>Rabbit &gt;2000 mg/kg</td>
<td>Rat &gt; 2.18 mg/L 4 hours</td>
</tr>
</tbody>
</table>

#### Chronic Toxicity

**Chronic Toxicity**
Prolonged exposure may cause chronic effects.

**Carcinogenicity**
Not considered a potential carcinogen base on IP346 DMSO of less than 3.0 wt%.

**Target Organ Effects**
Respiratory system, Eyes, Skin, Central nervous system (CNS)
Genotoxicity  
This product is considered non-mutagenic and has negative potential for tumor development based on from Modified Ames Assay, with Mutagenic Index of less than 1.0.

12. ECOLOGICAL INFORMATION

Ecotoxicity  
If applied to leaves, this product may kill grasses and small plants by interfering with transpiration and respiration. This product is not toxic to fish but may coat gill structures resulting in suffocation if spilled in shallow, running water. Product may be moderately toxic to amphibians by preventing dermal respiration. This product may cause gastrointestinal distress to birds and mammals through ingestion during pelage grooming.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method  
Dispose of in accordance with local regulations. Keep this product out of sewers and waterways.

Contaminated Packaging  
Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT  
Not regulated

IATA  
Not regulated

IMDG/IMO  
Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th></th>
<th>TSCA</th>
<th>DSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Distillates, Hydrotreated Heavy Paraffinic 64742-54-7</td>
<td>Present</td>
<td>X</td>
<td>265-157-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Petroleum Distillates, Solvent Dewaxed heavy Paraffinic 64742-65-0</td>
<td>Present</td>
<td>X</td>
<td>265-169-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Federal Regulations

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.

SARA 311/312 Hazard Categories

- Acute Health Hazard  No
- Chronic Health Hazard  No
- Fire Hazard  No
- Sudden Release of Pressure Hazard  No
- Reactive Hazard  No

Clean Water Act
If spilled into navigable waters it is reportable to National Response Center, 800-424-8802. Reportable Quantity = Oil Sheen present on navigable water surface. (40 CFR 116; 401.15)

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

**CERCLA**

**U.S. State Regulations**

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

**Florida**
No listed ingredients are present

**Massachusetts RTK**
No listed ingredients are present

**Minnesota RTK**
No listed ingredients are present

**New Jersey RTK**
Lists petroleum oil, but this product does not contain hazardous ingredients.

**Pennsylvania RTK**
Lists petroleum oil, but this product does not contain hazardous ingredients greater than 3%.

**Illinois DOL TSL**
No listed ingredients are present

**International Regulations**

**Mexico – Grade**
No information available.

**Canada**
Not listed on the Canadian Controlled Product Ingredient Disclosure and is compliant with Controlled Products Regulation

**CONEG Metals**
Since cadmium, chromium, lead and mercury are not detectable and it does not exceed 100 ppm total in this product, it is compliant with CONEG Metals regulation.

**EEC (Europe)**
This product is not known to be a dangerous good internationally. No known R-Phrases or S-Phrases

**Hazard Label**
None

**Danger Symbol**
None

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**
D2B Toxic materials

---

### 16. OTHER INFORMATION

**Prepared By**
Jim Prothro

**Issuing Date**
August 16, 2010

**Revision Date**
November 18, 2013

**Revision Note**
Updated product numbers

**Disclaimer**
The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as 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 material or in any process, unless specified in the text.

The End
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Trade name: John Deere Turf-Gard™ 10W30
Product code: TY22029, TY22075, TY22076
Other means of identification: API SN Engine Oil

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: API SN Engine Oil

1.3. Details of the supplier of the safety data sheet

MANUFACTURER:
Northland Products
1000 Rainbow Drive
Waterloo, IA 50704
Tel: +1-319-234-5585
+1-800-772-1724

SUPPLIER:
Deere & Company
One John Deere Place
Moline, IL 61265
E-mail: ESOC@JohnDeere.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300
Chemtrec (Outside USA) +1 703-527-3887 (24 hours)
Supplier: +1-309-748-5636 or 1-800-822-8262 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification
Not classified

2.2. Label elements

GHS-US labelling
No labelling applicable

2.3. Other hazards

other hazards which do not result in classification: This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects. Spills of this product present a serious slipping hazard. Used oil, may contain harmful impurities. Used motor oil was associated with cancer in lifetime skin painting studies with laboratory animals.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts</td>
<td>(CAS No) 68649-42-3</td>
<td>&lt;1</td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td>Distillates, petroleum, solvent-dewaxed heavy paraffinic</td>
<td>(CAS No) 64742-65-0</td>
<td>0.1 - 5</td>
<td>Asp. Tox. 1, H304</td>
</tr>
</tbody>
</table>

Page 1
John Deere Turf-Gard™ 10W30
Safety Data Sheet
according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distillates, petroleum, solvent-refined heavy paraffinic</td>
<td>(CAS No) 64741-88-4</td>
<td>0.1 - 5</td>
<td>Acute Tox. 4 (Inhalation:dust,mist), H332 Asp. Tox. 1, H304</td>
</tr>
<tr>
<td>Distillates, petroleum, solvent-refined light paraffinic</td>
<td>(CAS No) 64741-89-5</td>
<td>0.1 - 5</td>
<td>Acute Tox. 4 (Inhalation:dust,mist), H332 Asp. Tox. 1, H304</td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

### 4.1. Description of first aid measures

- **First-aid measures general**: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- **First-aid measures after inhalation**: Assure fresh air breathing. Allow the victim to rest. In case of breathing difficulties administer oxygen.
- **First-aid measures after skin contact**: Remove affected clothing and wash all exposed skin area with mild soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
- **First-aid measures after eye contact**: In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist. Obtain medical attention if pain, blinking or redness persist.
- **First-aid measures after ingestion**: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/injuries**: This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.

**Symptoms/injuries after inhalation**: In the event of insufficient ventilation: Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.

**Symptoms/injuries after skin contact**: Frequent or prolonged contact with skin may cause dermal irritation. Injection under the skin of pressurized hydrocarbons can cause severe, permanent tissue damage. Injection under the skin can cause inflammation and swelling.

**Symptoms/injuries after eye contact**: If user operations generate dust or fumes, May cause eye irritation. Exposure to vapor may cause intense watering and irritation to eyes.

### 4.3. Indication of any immediate medical attention and special treatment needed

Injection under the skin of pressurized hydrocarbons can cause severe, permanent tissue damage. Immediate treatment at a surgical emergency center is recommended.

**SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

- **Unsuitable extinguishing media**: Do not use a heavy water stream.

### 5.2. Special extinguishing media

- **Fire hazard**: When heated above the flash point, releases flammable vapours. Leaks/ruptures in high pressure system can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

### 5.3. Advice for firefighters

- **Precautionary measures fire**: Stop and contain spill/release if it can be done safely. If this cannot be done, allow fire to burn under control. Gases/vapours, toxic.
- **Firefighting instructions**: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- **Protective equipment for firefighters**: Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained respiratory apparatus during longer or intensive exposition or spraying processing.
- **Other information**: Special danger of slipping by leaking/spilling product.

**SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

- **General measures**: Use personal protective equipment as required. Special danger of slipping by leaking/spilling product. Stop leak if safe to do so. Relevant water authorities should be notified of any large spillage to water course or drain. This material can burn but will not readily ignite. Under fire conditions closed containers may rupture or explode.
6.1.1. For non-emergency personnel

Emergency procedures

Evacuate unnecessary personnel. Avoid breathing mist or vapor. Avoid direct eye contact with product, also via contamination on hands. Avoid contact with skin, eyes and clothes.

6.1.2. For emergency responders

Protective equipment

Equip cleanup crew with proper protection.

Emergency procedures

The low volatility of this product does not require ventilation. However depending on the condition an adequate ventilation might be required.

6.2. Environmental precautions

Prevent entry to sewers and public waters. An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Soak up spills with inert solids, such as fabric absorbents, clay or diatomaceous earth as soon as possible. Recover large spills by pumping (use an explosion proof or hand pump). Collect spillage. Store away from other materials. Consult the appropriate authorities about waste disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

Special danger of slipping by leaking/spilling product. Never use pressure to empty containers. Over pressure may rupture containers, cause serious injury, cause or accelerate fire.

Precautions for safe handling

Keep out of reach of children. Avoid contact with skin, eyes and clothes. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust/fume/gas/mist/vapours/spray. Empty container retains product residue. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Ground/bond container and receiving equipment. Never use in high pressure systems in the vicinity of flames, sparks and hot surfaces. Hygiene measures

Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

Ensure adequate ventilation of the storage area. A washing facility/water for eye and skin cleaning purposes should be present.

Storage conditions

Keep container closed when not in use. Keep only in the original container in a cool, well-ventilated place away from highly flammable substances.

Incompatible materials


Storage temperature

Store at ambient temperature

Heat and ignition sources

Remove all sources of ignition.

Storage area

Well-ventilated area.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls

Use adequate general or local ventilation to keep airborne concentrations below the exposure limits. Ensure adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal protective equipment

Personal protective equipment should be selected based upon the conditions under which this product is handled or used. Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles.

Hand protection

Wear protective gloves, rubber gloves.
Eye protection: Wear goggles if splashing or spraying is anticipated. Chemical goggles or safety glasses, with side-shields.

Skin and body protection: Wear protective clothing. Wear rubber boots.

Respiratory protection: Protection factors vary depending upon the type of respirator used. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazard protection: In case of insufficient ventilation, wear suitable respiratory equipment. Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE).

Environmental exposure controls: Do not allow run-off from fire-fighting to enter drains or water courses. Ensure waste is collected and contained. Notify authorities if product enters sewers or public waters.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: Clear to light amber.


Odour threshold: No data available

pH: No data available

Relative evaporation rate (butylacetate=1): No data available

Melting point: No data available

Freezing point: No data available

Boiling point: > 320 °C (608 °F)

Flash point: 225 °C (437 °F) Test method: COC

Self ignition temperature: No data available

Decomposition temperature: No data available

Flammability (solid, gas): Lower Flammability Limit (LFL) 0.9

Upper Flammability Limit (UFL) 7.0

Vapour pressure: < 0.01 mm Hg Maximum @ 37.8 °C (100 °F)

Relative vapour density at 20 °C: > 1

Relative density: 0.873 g/cm³ at 15.6 °C / 60 °F

Solubility: Water: insoluble

Organic solvent: completely soluble

Log Pow: No data available

Log Kow: Base oil hydrocarbons: log Kow > 4 (estimate)

Viscosity, kinematic: 69 cSt (40 °C/104 °F)

Viscosity, dynamic: No data available

Explosive properties: No data available

Oxidising properties: No data available

Explosive limits: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable at normal temperatures and pressures.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to flames, sparks, heat, or other potential ignition sources.

10.5. Incompatible materials


10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)
- LD50 dermal rabbit: > 2000 mg/kg

Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)
- LD50 oral rat: > 5000 mg/kg
- LD50 dermal rabbit: > 5 g/kg
- LC50 inhalation rat (mg/l): 2,18 mg/l/4h
- ATE (dust,mist): 2,180 mg/l/4h

Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)
- LD50 oral rat: > 5000 mg/kg
- LD50 dermal rabbit: > 5 g/kg
- LC50 inhalation rat (mg/l): 2,18 mg/l/4h
- ATE (dust,mist): 2,180 mg/l/4h

Skin corrosion/irritation
- Not classified

Serious eye damage/irritation
- Not classified

Respiratory or skin sensitisation
- Not classified

Germ cell mutagenicity
- Not classified

Reproductive toxicity
- Not classified

Specific target organ toxicity (single exposure)
- Not classified

Specific target organ toxicity (repeated exposure)
- Not classified

Aspiration hazard
- Not classified

Potential Adverse human health effects and symptoms
- In the event of insufficient ventilation: Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.

Symptoms/injuries after inhalation
- Frequent or prolonged contact with skin may cause dermal irritation. Injection under the skin of pressurized hydrocarbons can cause severe, permanent tissue damage. Injection under the skin can cause inflammation and swelling.

Symptoms/injuries after skin contact
- If user operations generate dust or fumes, . May cause eye irritation. Exposure to vapor may cause intense watering and irritation to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general
- May be toxic to aquatic life.

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)
- EC50 Daphnia 1: 1 - 1,5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
- LC50 fish 2: 10,0 - 35,0 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])

Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)
- LC50 fishes 1: > 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
- EC50 Daphnia 1: > 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)
- LC50 fishes 1: > 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
- EC50 Daphnia 1: > 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)
- LC50 fishes 1: > 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
- EC50 Daphnia 1: > 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

12.2. Persistence and degradability

John Deere Turf-Gard™ 10W30
- Persistence and degradability: Not established.
### Bioaccumulative potential

<table>
<thead>
<tr>
<th>John Deere Turf-Gard™ 10W30</th>
<th>Log Kow</th>
<th>Base oil hydrocarbons: log Kow &gt; 4 (estimate)</th>
</tr>
</thead>
</table>

### Mobility in soil

No additional information available

### Other adverse effects

Other information: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Sewage disposal recommendations</th>
<th>Prevent entry to sewers and public waters. An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste disposal recommendations</td>
<td>Dispose in a safe manner in accordance with local/national regulations. Liquid product may not be disposed of with household waste or landfilled. Do not allow to enter into drains/waters or in the soil. Do not pressurize, cut, weld, braze solder, drill, grind, or expose containers to flames, sparks, heat, or other potential ignition sources. Additional information: Used oil, may contain harmful impurities. Used motor oil was associated with cancer in lifetime skin painting studies with laboratory animals. Ecological - waste materials: Avoid release to the environment. Hazardous waste due to toxicity.</td>
</tr>
</tbody>
</table>

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

Not applicable

#### 14.2. UN proper shipping name

Not applicable

#### 14.3. Additional information

Other information: No supplementary information available.

<table>
<thead>
<tr>
<th>Overland transport</th>
<th>No additional information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport by sea</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Air transport</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

- Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory

- Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory

- Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory

- Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

**CANADA**

- Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)
  - Listed on the Canadian DSL (Domestic Substances List) inventory.
**Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)**
Listed on the Canadian DSL (Domestic Substances List) inventory.

**Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)**
Listed on the Canadian DSL (Domestic Substances List) inventory.

**Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)**
Listed on the Canadian DSL (Domestic Substances List) inventory.

### EU-Regulations

**Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

**Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

**Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

**Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)**
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

### Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

### Classification according to Directive 67/548/EEC or 1999/45/EC
Not classified

#### 15.2.2. National regulations

**Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)**
Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the Korean ECL (Existing Chemical List) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)

**Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)**
Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on the Korean ECL (Existing Chemical List) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)

**Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)**
Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on the Korean ECL (Existing Chemical List) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)

**Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)**
Listed on the AICS (the Australian Inventory of Chemical Substances)
Listed on Inventory of Existing Chemical Substances (IECSC)
Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.
Listed on the Korean ECL (Existing Chemical List) inventory.
Listed on New Zealand - Inventory of Chemicals (NZIoC)
Listed on Inventory of Chemicals and Chemical Substances (PICCS)

### 15.3. US State regulations

**Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)**

U.S. - Texas - Effects Screening Levels - Long Term
John Deere Turf-Gard™ 10W30
Safety Data Sheet
according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)
U.S. - Texas - Effects Screening Levels - Short Term

Distillates, petroleum, solvent-dewaxed heavy paraffinic (64742-65-0)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Distillates, petroleum, solvent-refined heavy paraffinic (64741-88-4)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Distillates, petroleum, solvent-refined light paraffinic (64741-89-5)
U.S. - Massachusetts - Right To Know List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |

SDS US (GHS HazCom 2012)
The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of Northland Products Company's knowledge; however, Northland Products Company makes no warranty whatsoever, expressed or implied, of merchantability or fitness for the particular purpose, regarding the accuracy of such data or the results to be obtained from the use thereof. Northland Products Company assumes no responsibility for the injury to the recipient or to third party persons or for any damage to any property and recipient assumes all such risks.
MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFICATION
UNITED 101

USE / DESCRIPTION
Moisture Barrier and Electrical Lubricant

REVISION DATE
March 17, 2003

FOR MEDICAL AND TRANSPORTATION EMERGENCIES:
INFOTRAC: 800-535-5093

HEALTH (0 = Maximum Safety)
Always follow Label Directions and Cautions.
4 Extreme. 3 High. 2 Moderate. 1 Slight. 0 Minimal.
See Health Hazard Data Section of this M.S.D.S. for more detailed information.

REACTIVITY (0 = Maximum Safety)
Susceptible to Release of Energy.
4 May detonate-vacate area if Materials are exposed to fire.
3 Strong shock of heat may detonate-use monitors from behind explosion resistant barriers.
2 Violent chemical change possible-use hose stream from distance
1 Unstable if heated-use precaution.
0 Normally stable.

FLAMMABILITY (0 = Maximum Safety)
Susceptibility of Material to Burning.
4 Extremely flammable. 3 Ignites at normal temperature. 2 Ignites when moderately heated.
1 Must be preheated to burn. 0 Will not burn.

HAZARDOUS COMPONENTS
IDENTITY, EXPOSURE LIMITS AND S.A.R.A. TITLE III INFORMATION

<table>
<thead>
<tr>
<th>HAZARDOUS COMPONENTS</th>
<th>CAS NUMBER</th>
<th>ACGIH (TWA)</th>
<th>ACGIH (STEL)</th>
<th>OSHA (PEL)</th>
<th>OTHER RECOMMENDED LIMITS</th>
<th>S.A.R.A. TITLE III QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isoparaffinic hydrocarbon</td>
<td>64742-46-7</td>
<td>200 ppm</td>
<td>Not established</td>
<td>200 ppm</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Food grade mineral oil</td>
<td>8042-47-5</td>
<td>5 mg/m³</td>
<td>Not established</td>
<td>5 mg/m³</td>
<td>NIOSH STEL 10 mg/m³</td>
<td>None</td>
</tr>
<tr>
<td>Dipropylene glycol monomethyl ether</td>
<td>34590-94-8</td>
<td>SKIN: 100 ppm, SKIN: 606 mg/m³</td>
<td>SKIN: 150 ppm, SKIN: 909 mg/m³</td>
<td>SKIN: 100 ppm, SKIN: 600 mg/m³</td>
<td>NIOSH TWA 100 ppm, 600 mg/m³</td>
<td>None</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>124-38-9</td>
<td>5000 ppm, 9000 mg/m³</td>
<td>30,000 ppm, 54,000 mg/m³</td>
<td>5000 ppm, 9000 mg/m³</td>
<td>NIOSH STEL 30,000 ppm, 54,000 mg/m³</td>
<td>None</td>
</tr>
</tbody>
</table>

PHYSICAL / CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILING POINT</td>
<td>Approximately 500°F</td>
</tr>
<tr>
<td>VAPOR PRESSURE (psig) (At 70° F)</td>
<td>90</td>
</tr>
<tr>
<td>VAPOR DENSITY (Air = 1)</td>
<td>Greater than 1.0</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>Slight</td>
</tr>
<tr>
<td>APPEARANCE AND ODOR</td>
<td>Brown liquid with solvent odor</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY (H₂O = 1)</td>
<td>(21° C) 0.830</td>
</tr>
<tr>
<td>MELTING POINT</td>
<td>Not determined</td>
</tr>
<tr>
<td>EVAPORATION RATE (Butyl Acetate = 1)</td>
<td>Not determined</td>
</tr>
<tr>
<td>VOLATILE ORGANIC COMPOUNDS (V.O.C.)</td>
<td>(Pounds Per Can Of Product) 0.023</td>
</tr>
</tbody>
</table>

FIRE AND EXPLOSION HAZARD DATA

<table>
<thead>
<tr>
<th>FIRE POINT (Method Used)</th>
<th>FLAMMABLE LIMITS</th>
<th>LEL</th>
<th>UEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentrate: 216°F (T.O.C.)</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

EXTINGUISHING MEDIA
Foam, dry chemical, carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES
Keep containers cool with water spray Do not allow runoff to enter lakes, ponds, sewers or public water courses. Use equipment or shielding required to protect personnel against rupturing, bursting or venting containers. Fire fighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Exposure to temperatures above 120°F may cause bursting.
**REACTIVITY DATA**

<table>
<thead>
<tr>
<th>Stability: Stable</th>
<th>Conditional to Avoid: Do not expose to temperatures above 120°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNSTABLE</td>
<td></td>
</tr>
</tbody>
</table>

**INCOMPATIBILITY (Materials To Avoid)**
Strong oxidizing agents

**HAZARDOUS DECOMPOSITION OR BY PRODUCTS**
In a fire, this product may produce carbon dioxide and carbon monoxide.

**HAZARDOUS POLYMERIZATION: WILL NOT OCCUR**

| Conditions To Avoid: None known |

**HEALTH HAZARD DATA**

**HEALTH HAZARDS**

**EYES:** May cause slight irritation, but does not injure eye tissue. **SKIN:** Prolonged or repeated contact may cause moderate irritation.

**INHALATION:** May cause irritation of nasal and respiratory passages. Abusive or excessive inhalation may cause dizziness, drowsiness, throat irritation, unconsciousness and other CNS effects.

**IF SWALLOWED:** May cause upset stomach, nausea, vomiting and diarrhea. Aspiration of material into lungs may cause chemical pneumonitis. Minimal toxicity.

**Carcinogenicity:** NTP? No  IARC MONOGRAPHS? No  OSHA REGULATED? No

This product contains a chemical known to the state of California to cause cancer or reproductive toxicity? No

**SCHORTS AND SYMPTOMS OF OVEREXPOSURE**

**EYES:** Irritation  **SKIN:** Irritation

**INHALATION:** Irritation of nasal and respiratory passage  Dizziness, drowsiness, throat irritation, unconsciousness and other CNS effects.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY OVEREXPOSURE**
None known

**TARGET ORGANS:** Central nervous system

**EMERGENCY AND FIRST AID PROCEDURES**

**EYES:** Flush with water lifting upper and lower lids, for at least 15 minutes. If irritation persists, call a physician or poison center.

**SKIN:** Wash with soap and water. If irritation persists, call a physician or poison center.

**INHALATION:** Remove to fresh air. Apply CPR as needed and call a physician or poison center immediately.

**IF SWALLOWED:** Do not induce vomiting. Call a physician or poison center immediately. Aspiration of material into the lungs may cause chemical pneumonitis.

**PRECAUTIONS FOR SAFE HANDLING AND USE**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Eliminate all sources of ignition. Ventilate area. Allow propellant to evaporate. Absorb with inert, non-combustible material.

Place in a suitable container for disposal.

**WASTE DISPOSAL METHOD**

Consult local, state, and federal authorities for proper disposal guidelines.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Store in a cool, dry place away from direct sunlight and sources of ignition. Do not expose to temperatures above 120°F. Store as NFPA code 30B Level 1 Aerosol.

Avoid skin contact and do not get in eyes. Replace cap when not in use. Direct spray away from face. Keep out of reach of children.

**CONTROL MEASURES**

**FOR USE WHERE SIGNIFICANT EYE, SKIN OR INHALATION EXPOSURE IS LIKELY**

**Respiratory Protection (Specify Type)**
If TLV is exceeded, use NIOSH/MSHA approved respirator.

**Ventilation:**

<table>
<thead>
<tr>
<th>Mechanical (General)</th>
<th>Local Exhaust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide adequate ventilation</td>
<td>Generally adequate</td>
</tr>
</tbody>
</table>

**Protective Gloves**
Neoprene or nitrile rubber gloves

**Eye Protection**
Safety glasses

**Other Protective Clothing or Equipment**
Long sleeves

**Work Hygienic Practices**
Wash hands and face with soap and water after using this product.
There was a PDF conversion failure for Uploaded SDS -

- **Product Name:** Unleaded Gasoline
- **CAS Number:**
- **Manufacturer:** Gasoline
- **SDS Date:**

To complete your binder, please upload a different SDS for this product or remove the SDS from your binder.

We are currently researching solutions to this issue. Thank you for your patience.
Section 1: Product Identification

Product Type: Dry Packaged Cement-Based Products

Akona Product Name:
Vinyl Cement Patch

Section 2: Hazard Identification

The most immediate and likely hazards are burns from dust in the eye. When the product is mixed with water, it will form an alkaline solution, which can cause skin irritation. Dust from the product is irritating to breathe. Prolonged overexposure to dust from the product is harmful to breathe, because it will contain crystalline silica.

Applicable hazard statement based on cement content
Danger.
H318: Causes serious eye damage
H315: Causes skin irritation

Applicable hazard statement based on crystalline silica content
Danger.
H350: May cause cancer from inhaling dust.
H372: Causes damage to respiratory system (silicosis) through prolonged or repeated exposure to inhaled dust.

This product has been evaluated according to GHS and 29CFR1910.1200, Appendix A. It is categorized as a Health Hazard Carcinogen Category 1A, because it contains crystalline silica (quartz). It is categorized as a Health Hazard (serious eye damage/eye irritation - Category 1 and skin irritation – Category 2) because it contains Portland cement.

Applicable Precautionary Statements:
Based on crystalline silica content
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dusts
P270: Do not eat, drink or smoke when using this product.
P280: Wear eye protection
P308+313/314. If exposed or concerns, or if you feel unwell: Get medical advice
P501: Dispose of contents in accord with local regulations
Based on cement content:
P280: Wear skin and eye protection (water resistant protective gloves. Goggles recommended to prevent any dust in eyes).
P264: Wash any exposed skin thoroughly after handling material
P362+P364: Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352: IF ON SKIN: wash with plenty of water.
P332+P313: If skin irritation occurs, get medical attention.
P310: Immediately call a doctor if any eye irritation or discomfort develops

**HMIS® Rating:**
Health: 1* Fire: 0 Reactivity: 0

HMIS® is a registered trademark of the National Paint and Coatings Association

### Section 3: Hazardous Ingredients/Composition

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Typical Percentage</th>
<th>CAS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Cement</td>
<td>20-40%</td>
<td>65997-15-1</td>
</tr>
<tr>
<td>Calcium aluminate cement</td>
<td>0-55%</td>
<td>65997-16-2</td>
</tr>
<tr>
<td>Silica Sand (as quartz)</td>
<td>60-75%</td>
<td>14808-60-7</td>
</tr>
<tr>
<td>Lime</td>
<td>0-7%</td>
<td>1305-78-8</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>0-4%</td>
<td>471-34-1</td>
</tr>
<tr>
<td>Polymeric binder</td>
<td>0-4%</td>
<td>*</td>
</tr>
</tbody>
</table>

*Specific chemical identities and concentrations withheld as trade secret. They are available upon request to health professionals, employees and their designated representatives in accord with 29CFR1910.1200(i).

### Section 4: First Aid Measures

**Inhalation:**
If irritation develops, get to fresh air.

**Eye contact:**
Immediately rinse eyes: hold eyelids apart and flush eyes with plenty of water. At least fifteen minutes of flushing is recommended. Get prompt medical attention for any discomfort or irritation.

**Skin Contact:**
Promptly wash off with plenty of soap and water. Get medical attention for any burns or persistent rashes.

**Ingestion:**
Check with the Poison Control Center or a doctor. Do not induce vomiting unless directed to do so by medical personnel.

**Symptoms of overexposure:**
**Inhalation:** Breathing the dust may cause coughing, wheezing, sore throat. Repeated exposure to the dust can cause a runny nose, chronic coughing and impaired
lung function. Long term exposure to respirable crystalline silica in the dust can cause silicosis (lung scarring) and lung cancer.

   **Eye contact:** eye irritation from the mechanical effect. Eye irritation, burning from cement. Cement reacts with moisture to form a very alkaline solution, which can severely irritate or burn eyes.

   **Skin Contact:** Can cause skin irritation and can dry the skin. Because cement reacts with moisture exothermically to form an alkaline solution, contact with damp skin can cause irritation or burns, which may not be felt immediately. Severe burns of the feet have resulted from cement getting into footwear. Some people may develop an allergic dermatitis (cement itch) from chromate contaminants in Portland cement.

   **Note to physician:** Treat according to symptoms. No known specific antidote.

---

**Section 5: Fire Fighting Measures**

**Fire extinguishing media:** Appropriate for surrounding materials. Product is not flammable.

**Special fire fighting procedures:** none

**Unusual fire and explosion hazards:** None

**Hazardous combustion products:** None expected.

---

**Section 6: Accidental Release Measures**

Contain and clean up. Avoid creating dust. Do not wash down drains or allow product to enter sewers – product will harden upon contact with water.

---

**Section 7: Handling and Storage**

Avoid breathing dust.
Wash hands after use.
Do not eat, drink, or use tobacco products when handling any chemical products.

---

**Section 8: Exposure Controls/Personal Protection**

**Occupational Exposure Limits:**

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>OSHA 1989 PEL*</th>
<th>ACGIH TLV</th>
<th>NIOSH REL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland cement</td>
<td>50 mppcf</td>
<td>10 mg/m³ (total) 5 mg/m³ (respirable)</td>
<td>1 mg/m³ (respirable)</td>
<td>10 mg/m³ (total) 5 mg/m³ (respirable)</td>
</tr>
<tr>
<td>Crystalline silica (quartz)</td>
<td>10 mg/m³ (%silica+2)</td>
<td>0.1 mg/m³ (respirable)</td>
<td>0.025 mg/m³ (respirable)</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Calcium aluminate cement</td>
<td>Use exposure limits for Portland cement.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Safety Data Sheet
Vinyl Cement Patch
© Akona Manufacturing LLC.
Version 1.2

Page 4 of 6

<table>
<thead>
<tr>
<th>Lime (calcium oxide)</th>
<th>5 mg/m³</th>
<th>5 mg/m³</th>
<th>2 mg/m³</th>
<th>2 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium carbonate</td>
<td>15 mg/m³ (total)</td>
<td>15 mg/m³ (total)</td>
<td>None (TLV withdrawn in 2007)</td>
<td>10 mg/m³ (total)</td>
</tr>
<tr>
<td></td>
<td>5 mg/m³ (respirable)</td>
<td>5 mg/m³ (respirable)</td>
<td></td>
<td>5 mg/m³ (respirable)</td>
</tr>
<tr>
<td>Polymeric binder</td>
<td>None established</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*For states that adopted the 1989 PEL revisions (Minnesota, Oregon, Washington, California)

**Engineering Controls:**
Avoid creating dust.
Local exhaust ventilation is usually not required.
If cutting or grinding material after it has hardened, water can be used as a dust suppressant.

**Personal protective equipment**
**Respiratory protection:** Usually not required when working with virgin product, but take measures to minimize dust exposure. May be required, depending on work done, for grinding or cutting material after it has hardened.
For protection against irritation from dust or up to ten times the recommended exposure limits, use a NIOSH-approved N-95 filtering facepiece or a half mask respirator equipped with N-95 filters. A more protective respirator (e.g., P100 filters or full face respirator) may be substituted.
**Skin protection:** Avoid any skin contact, particularly when skin may be wet from sweat. Wear any water-impermeable gloves such as PVC gloves, particularly for prolonged contact. Wear waterproof boots, high enough to prevent any cement from getting into them. Promptly wash off of skin and remove contaminated clothing.
**Eye protection:** Safety glasses with side shields. If used in dusty or windy conditions, goggles are recommended.

**Section 9: Physical and Chemical Properties**
**Appearance and odor:** grey or grey-brown powder. May contain some coarse aggregate. No significant odor.
**Flash point:** noncombustible.
**Flammable limits:** N/A
**Boiling Point:** >2700°F
**Melting point:** >2700°F
**Specific Gravity:** 2.6 to 3.15
**Solubility in water:** slight
**pH:** 11-13 (cements in water)
**Evaporation Rate:** not applicable. Product does not evaporate.
**Evaporation rate (butyl acetate = 1):** not applicable
Section 10: Stability and Reactivity

**Stability:** stable
**Conditions to avoid:** none known.
**Incompatibility:** will react with water, hydrating product, hardening it, and giving off heat. Avoid strong oxidizers, strong acids
**Hazardous polymerization:** will not occur
**Hazardous decomposition products:** Silica will dissolve in hydrofluoric acid and produce a corrosive gas - silicon tetrafluoride.

Section 11: Toxicological Information

Not considered acutely toxic.

Can damage the eyes, skin and respiratory system.

Portland and calcium aluminate cements are caustic and abrasive to the skin. In contact with water or moisture, they can form alkaline hydroxides, which can cause burns that may not be felt immediately.

Portland cement may contain trace amounts of hexavalent chromium. Hexavalent chromium can cause allergic contact dermatitis.

Respirable crystalline silica is categorized as a Health Hazard Carcinogen Category 1A (known to have carcinogenic potential for humans) and a Health Hazard Specific Target Organ Toxicity – Repeated Exposure Category 1. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Crystalline silica is listed as carcinogenic according to IARC. ACGIH classified crystalline silica as a suspected human carcinogen.

Portland and calcium aluminate cements are categorized as Health Hazard Serious Eye Damage/Eye Irritation Category 1 and Serious Skin Category 2, because they form a strong alkaline solution in water.

Polymeric binder: toxicological testing has been conducted with similar products
   Acute toxicity (oral, rat): LD$_{50}$ >2000 mg/kg
   Irritation (rabbit): mildly irritating to skin. Not irritating to eyes

Section 12: Ecological Information

Product as a whole has not been tested but is expected to have low acute toxicity.

**Ecotoxicity:**

   Not considered hazardous to the aquatic environment or to the ozone layer.

**Persistence and degradability:** Not likely to biodegrade
Mobility in soil: no information available.
Bioaccumulation: based on ingredients, not likely to bioaccumulate

Section 13: Disposal Considerations
Do not sewer or dump on the ground.
As provided, not a RCRA-regulated waste.
Dispose of in accordance with federal, state, and local regulations.

Section 14: Transportation
Not a DOT-regulated hazardous material. Not classified as dangerous goods for DOT, IATA, IMDG, TDG.

Section 15: Regulatory Information
This product contains 0.1% or more of crystalline silica, regulated under California Proposition 65 as a chemical known to the state of California to cause cancer or reproductive effects. It is on the New Jersey Right to Know Hazardous Substance List.

This product does not contain any
- chemicals regulated under:
  - CERCLA
  - SARA 302 EHS
  - SARA 311/312
  - SARA 313
- Hazardous Air Pollutants

Section 16: Other Information
Additional information on the product is available at. www.akonallc.com

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products. Before using any product, read its label and safety data sheet.