SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Pedigree® 60-60 VTC LV
Product Use Description: Electrical Insulation

Company: ELANTAS PDG, INC.
5200 North 2nd Street
St. Louis MO 63147

Prepared by: Todd Thomas, Manager Regulatory Affairs
Telephone: (314) 621-5700
Visit our web site: www.elantas.com
E-mail address: Todd.Thomas@altana.com
Emergency telephone number: INFOTRAC - 1-800-535-5053

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview
Form: liquid
Hazard Summary: MAY CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION. FLAMMABLE. MAY CAUSE BIRTH DEFECTS.

OSHA Regulatory Status
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR1910.1200)

Potential Health Effects
Eyes: May irritate eyes.
Direct contact with the product or exposure to vapors or mist may cause stinging, tearing and redness.

Skin: May be slight to moderately irritating if exposed to skin.
Prolonged or repeated skin contact with liquid may cause defatting resulting in drying, redness and possible blistering.

Ingestion: May cause gastrointestinal irritation.

Inhalation: High concentrations of vapors may be irritating to the respiratory tract.
May affect the brain or nervous system, causing dizziness, headache, or nausea.

Chronic Exposure: Repeated excessive exposure to this product may cause central nervous system, liver, or kidney effects and respiratory or eye irritation.
Vinyl toluene has been shown to cause harm to the fetus in laboratory animal studies.

**Aggravated Medical Condition**
- Respiratory disorders
- Skin disorders
- Kidney disorders
- Liver disorders

**Primary Routes of Entry**
- Inhalation
- Skin contact
- Eyes

**Target Organs**
- Eyes
- Skin
- Respiratory system
- Kidney
- Liver

**Carcinogenicity:**

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Environmental Effects**

Environmental Effects : No information available.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature**

Unsaturated Polyester Resin Solution

**Hazardous components**

The specific chemical identity/weight percent of proprietary ingredient(s) is a trade secret

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinyl toluene</td>
<td>25013-15-4</td>
<td>30.00 - 50.00</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

First aid procedures

Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

Skin contact : In case of contact, immediately flush skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash and thoroughly clean contaminated clothing and shoes before reuse. Consult a physician.

Eye contact : In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Consult a physician.

Ingestion : If swallowed, consult a physician. This material (or its components) may present an aspiration hazard. Never give anything by mouth to an unconscious person.

Notes to physician

Risks : No information available.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties

Flash point : 53 °C (127 °F)
Method: Literature Value

Suitable extinguishing media : Carbon dioxide (CO2)
Foam
Dry powder
Water mist
Water spray

Unsuitable extinguishing media : Do NOT use water jet.

Special protective equipment for firefighters : Wear a positive-pressure supplied-air respirator with full facepiece.
Use personal protective equipment.

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Cool containers / tanks with water spray.
Flash back possible over considerable distance.
The pressure in sealed containers can increase under the influence of heat. Cool closed containers exposed to fire with water spray.

Hazardous decomposition products due to incomplete combustion:
- Carbon oxides
- Nitrogen oxides (NOx)
- Hazardous polymerisation may occur.

Further information:
- Remove ignition sources
- Immediately evacuate personnel to safe areas
- Use a water spray to cool fully closed containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Personal precautions</th>
<th>Remove all sources of ignition. Ensure adequate ventilation. Avoid breathing vapors. Refer to protective measures listed in sections 7 and 8.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental precautions</td>
<td>Clean contaminated floors and objects thoroughly while observing environmental regulations.</td>
</tr>
<tr>
<td>Methods for containment</td>
<td>Stop leak. Dike and contain spill.</td>
</tr>
<tr>
<td>Methods for cleaning up</td>
<td>Absorb with inert absorbent material and dispose of in accordance with applicable regulations.</td>
</tr>
<tr>
<td>Additional advice</td>
<td>Shut off source of spill if it can be done safely. Use non-sparking tools.</td>
</tr>
</tbody>
</table>

SECTION 7. HANDLING AND STORAGE

Handling

<table>
<thead>
<tr>
<th>Handling</th>
<th>Keep closure tight and container upright to prevent leakage. Do not puncture, drag, or slide container. Container is not a pressure vessel. Never use pressure to empty. Avoid prolonged or repeated inhalation of spray mists and heated vapors. Avoid contact with or breathing of vapors during curing process. Avoid contact with skin. Do not get in eyes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advice on protection against fire and explosion</td>
<td>ATTENTION: Empty containers may retain hazardous residue and explosive vapors. Do not cut, puncture, or weld on or near this container until it has been thoroughly cleaned and all hazards have been removed. To avoid ignition of vapours by static electricity discharge, all</td>
</tr>
</tbody>
</table>
metal parts of the equipment must be grounded.

Storage
Further information on storage conditions: Store only in well-ventilated areas. Store container out of sunlight and away from heat, sparks and flame.

Advice on common storage: Do not store above 25°C (77 °F). To minimize the possibility of polymerization and to maintain product quality, the ideal storage temperature is less than 25 °C. Above 25 °C, this material must be monitored closely.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinyl toluene</td>
<td>25013-15-4</td>
<td>TWA</td>
<td>50 ppm</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>100 ppm</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 480 mg/m3</td>
<td>1997-08-04</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 480 mg/m3</td>
<td>2005-09-01</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>

Engineering measures
Engineering measures: Use with adequate ventilation. All application areas should be ventilated in accordance with applicable OSHA regulations. (29 CFR 1910.94)

Personal protective equipment
Eye protection: Use safety eyewear designed to protect against splash of liquids. Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection: Impervious gloves
### Skin and body protection
Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

### Respiratory protection
Wear an appropriate, properly-fitted respirator (NIOSH/MSHA approved) during and after application unless air monitoring demonstrates that vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use.

### Hygiene measures
Wash thoroughly after handling.
Do not get in eyes.
Do not get on skin.
Avoid prolonged or repeated breathing of vapour.

### SECTION 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>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>53 °C (127 °F)</td>
</tr>
<tr>
<td>Method: Literature Value</td>
<td></td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.0689 g/cm³ at 25 °C (77 °F) (1.013 hPa)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>1,069 kg/m³</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>no data available</td>
</tr>
</tbody>
</table>

### SECTION 10. STABILITY AND REACTIVITY

**Conditions to avoid**: Keep away from open flames, hot surfaces and sources of ignition.

**Materials to avoid**: Strong oxidizing agents
Acids

**Hazardous decomposition products**: Carbon dioxide, carbon monoxide and toxic vapors.
Material Safety Data Sheet

Pedigree® 60-60 VTC LV

Version 2  Revision Date 09/12/2013  Print Date 09/12/2013

Chemical stability : Hazardous polymerization may occur upon depletion of inhibitor.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (Component) : Component: 25013-15-4 Vinyl toluene
LD50 rat
Dose: 4,000 mg/kg

Acute inhalation toxicity (Component) : Component: 25013-15-4 Vinyl toluene
LC50 mouse
Dose: 3020 ppm

Skin irritation (Component) : Component: 25013-15-4 Vinyl toluene
rabbit
Result: Moderate skin irritation

Eye irritation (Component) : Component: 25013-15-4 Vinyl toluene
rabbit
Result: Mild eye irritation

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information (Product) : no data available

Component: Vinyl toluene 25013-15-4
Toxicity to fish: static test NOEC
Species: guppy
Dose: 1,000 mg/l
Exposure time: 96 h
Method:

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Dispose of in accordance with applicable Federal, State, and local regulations. Under the Resource Conservation and Recovery Act (RCRA) regulations, it is the responsibility of the product user to determine, at the time of disposal, whether a material should be classified as a hazardous waste. Consult your attorney or appropriate regulatory affairs officer for information on proper disposal.
SECTION 14. TRANSPORT INFORMATION

DOT
UN Number : 1866
Proper shipping name : RESIN SOLUTION
Class : 3
Packing group : III
Emergency Response : 127
Guidebook Number

IATA
UN Number : 1866
Description of the goods : RESIN SOLUTION
Class : 3
Packing group : III
ICAO-Labels : 3
Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355
Package Instruction (Limited quantity) : Y344

IMDG
UN Number : UN 1866
Description of the goods : RESIN SOLUTION
Class : 3
Packing group : III
IMDG-Labels : 3
EmSNumber1 : F-E
EmSNumber2 : S-E
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

HMIS Classification : Health hazard: 2
Chronic Health Hazard: *
Flammability: 2
Reactivity: 1
PPI: Safety Glasses, Gloves

National Fire Protection Association (NFPA) Class : II

Emergency Planning Community Right-To-Know (EPCRA)

SARA 302 Components : The following components are subject to reporting levels established by SARA Title III, Section 302:
Hydroquinone : 123-31-9
If listed below, this product contains toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

**SARA 311/312 Hazards**
- Acute Health Hazard
- Chronic Health Hazard
- Fire Hazard
- Reactivity Hazard

**CERCLA Reportable Quantity**
- Calculated RQ exceeds reasonably attainable upper limit.

**SARA 302 Reportable Quantity**
- Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Reportable Quantity**
- Calculated RQ exceeds reasonably attainable upper limit.

**Toxic Substances Control Act (TSCA)**
- TSCA Status: We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).

**Clean Air Act & Related Information**

**Non-volatile (Wt)**
- Method: This product is a 100% reactive system. Total emissions are dependent on the method of application, air flow, processing temperatures and the type of unit being produced. Refer to the product technical data sheet for VOC information.

Non-volatile information is not a specification.

**Hazardous Air Pollutants**

If not listed above, this product does not contain HAPs at 1% or 0.1% or greater. Refer to Section 3 for HAP weight percentage.

**Resource Conservation and Recovery Act**

**EPA Hazardous Waste Code(s)**
- D001 Ignitable

**State Laws**

**Massachusetts Right To Know Components**
- Vinyl toluene 25013-15-4
### Pennsylvania Right To Know Components
- Unsaturated polyester
- Vinyl toluene
- n-Butanol

### New Jersey Right To Know Components
- Unsaturated polyester
- Vinyl toluene

### New Jersey Trade Secret Registry Number for the product (NJ TSRN)
- NOT APPLICABLE

### California Prop. 65 Components
- This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### Canadian Environmental Protection Act
- Domestic Substances List
  - DSL Status: We certify that all of the components of this product are listed on the DSL.

### WHMIS Classification
- B3

### SECTION 16. OTHER INFORMATION

**Further information**

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

SECTION 1 - Chemical Product and Company Information

Product Name: HAPS FREE METALLIC GRAY LAC (1G)  Product Code: MG1000G27-1
Manufactured by: Gemini Coatings
2300 Holloway Drive
El Reno, OK 73036
800-262-5710

24-Hour Emergency (Spill, Leak, Exposure or Accident):
INFOTRAC 800-535-5053
Outside USA, Call Collect 1-352-323-3500

24-Hour Emergency HAZMAT Response and MSDS Help:
EMI 800-510-8510

Product Use: A protective and/or decorative finish or accompanying product (reference label or product data sheet for more information).
Not recommended for: Any other use not detailed on product data sheet or label.

SECTION 2 - Hazards Identification

GHS Ratings:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquid</td>
<td>1  Flash point &lt; 23°C and initial boiling point &lt;= 35°C (95°F)</td>
</tr>
<tr>
<td>Skin corrosive</td>
<td>3  Reversible adverse effects in dermal tissue, Draize score: &gt;= 1.5 &lt; 2.3</td>
</tr>
<tr>
<td>Eye corrosive</td>
<td>2A  Eye irritant: Subcategory 2A, Reversible in 21 days</td>
</tr>
<tr>
<td>Mutagen</td>
<td>1B  Known to produce heritable mutations in human germ cellsSubcategory 1B, Positive results: In vivo heritable germ cell tests in mammals, Human germ cell tests, In vivo somatic mutagenicity tests, combined with some evidence of germ cell mutagenicity</td>
</tr>
<tr>
<td>Carcinogen</td>
<td>1A  Known Human Carcinogen Based on human evidence</td>
</tr>
<tr>
<td>Reproductive toxin</td>
<td>1A  Based on human evidence</td>
</tr>
</tbody>
</table>

GHS Hazards

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H224</td>
<td>Extremely flammable liquid and vapour</td>
</tr>
<tr>
<td>H316</td>
<td>Causes mild skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child</td>
</tr>
</tbody>
</table>

GHS Precautions

<table>
<thead>
<tr>
<th>Precaution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P201</td>
<td>Obtain special instructions before use</td>
</tr>
<tr>
<td>P202</td>
<td>Do not handle until all safety precautions have been read and understood</td>
</tr>
<tr>
<td>P210</td>
<td>Keep away from heat/sparks/open flames/hot surfaces – No smoking</td>
</tr>
<tr>
<td>P233</td>
<td>Keep container tightly closed</td>
</tr>
<tr>
<td>P240</td>
<td>Ground/bond container and receiving equipment</td>
</tr>
<tr>
<td>P241</td>
<td>Use explosion-proof electrical/ventilating/light/mixers/equipment</td>
</tr>
<tr>
<td>P242</td>
<td>Use only non-sparking tools</td>
</tr>
<tr>
<td>P243</td>
<td>Take precautionary measures against static discharge</td>
</tr>
<tr>
<td>P264</td>
<td>Wash any exposed skin thoroughly after handling</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves/protective clothing/eye protection/face protection</td>
</tr>
<tr>
<td>P281</td>
<td>Use personal protective equipment as required</td>
</tr>
</tbody>
</table>
SECTION 3 - Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name / CAS No.</th>
<th>OSHA Exposure Limits</th>
<th>ACGIH Exposure Limits</th>
<th>Other Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl acetate</td>
<td>200 ppm TWA; 950 mg/m3 TWA</td>
<td>200 ppm TWA</td>
<td>NIOSH: 200 ppm TWA; 950 mg/m3 TWA</td>
</tr>
<tr>
<td>540-88-5</td>
<td>20 to 30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n-Butyl acetate</td>
<td>150 ppm TWA; 710 mg/m3 TWA</td>
<td>200 ppm STEL; 150 ppm TWA</td>
<td>NIOSH: 150 ppm TWA; 710 mg/m3 TWA</td>
</tr>
<tr>
<td>123-86-4</td>
<td>10 to 20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETHYL ACETATE</td>
<td>400 ppm TWA; 1400 mg/m3 TWA</td>
<td>400 ppm TWA</td>
<td>NIOSH: 400 ppm TWA; 1400 mg/m3 TWA</td>
</tr>
<tr>
<td>141-78-6</td>
<td>10 to 20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrocellulose</td>
<td>1000 ppm TWA; 2400 mg/m3 TWA</td>
<td>500 ppm STEL; 250 ppm TWA</td>
<td>NIOSH: 250 ppm TWA; 590 mg/m3 TWA</td>
</tr>
<tr>
<td>9004-70-0</td>
<td>5 to 10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>1000 ppm TWA; 1900 mg/m3 TWA</td>
<td>1000 ppm STEL</td>
<td>NIOSH: 1000 ppm TWA; 1900 mg/m3 TWA</td>
</tr>
<tr>
<td>67-64-1</td>
<td>5 to 10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethyl alcohol</td>
<td>400 ppm TWA; 980 mg/m3 TWA</td>
<td>400 ppm STEL; 200 ppm TWA</td>
<td>NIOSH: 400 ppm TWA; 980 mg/m3 TWA</td>
</tr>
<tr>
<td>64-17-5</td>
<td>1 to 5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>150 ppm TWA; 700 mg/m3 TWA</td>
<td>150 ppm TWA</td>
<td>NIOSH: 150 ppm TWA; 700 mg/m3 TWA</td>
</tr>
<tr>
<td>67-63-0</td>
<td>1 to 5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISOBUTYL ACETATE</td>
<td>100-19-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>110-19-0</td>
<td>1 to 5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4 - First Aid Measures

**Inhalation:**
Remove exposed individual to fresh air and assist breathing if necessary. Seek medical attention.

**Eye Contact:**
Flush eyes with lukewarm water for 15 minutes. Seek medical attention immediately.

**Skin:**
Remove contaminated clothing, wash area immediately with soap and water. See physician if irritation persists.

**Ingestion:**
Rinse mouth out immediately. Drink 1 or 2 glasses of water to dilute. DO NOT induce vomiting. Contact physician or poison control center immediately.

SECTION 5 - Fire Fighting Measures

Alcohol Foam, CO2, Dry Chemical
Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. Do not apply to hot surfaces. Never use welding or cutting torch on or near container (even empty) because product (even residue) may ignite explosively. Liquid and vapor states of this substance are dangerous fire hazards and moderate explosion hazards when exposed to heat or flame.

Oxidation may produce carbon and nitrogen oxides.

Clear fire area of unprotected personnel. Do not enter confined space without helmet, face shield, bunker coat, gloves, rubber boots and a positive pressure NIOSH-approved self-contained breathing apparatus. A water stream can scatter flames. A spray of water may be used to cool closed containers to prevent pressure buildup and possible auto ignition or explosion when exposed to extreme heat. If water is used, fog nozzless are preferable.

Use the National Fire Protection Association Class B extinguisher.

SECTION 6 - Accidental Release Measures

Stay upwind and away from spill or leak unless wearing appropriate protective equipment. Stop and/or contain discharge if it may be done safely. Keep all sources of ignition away. Ventilate area of spill. Use non-sparking tools for clean up. Cover with inert material to reduce fumes. Keep out of drains, sewer or waterways.

If large spill occurs, alert spill response teams. Contact fire authorities. Notify local health and pollution control
SECTION 7 - Handling and Storage

Handling:
Bond and ground metal containers when transferring liquid. Avoid free fall of liquid in excess of a few inches. Personnel should avoid inhalation of vapors. Personal contact with the product should be avoided. Should contact be made, remove saturated clothing and flush affected skin areas with water. Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in this sheet must be observed.

Storage:
Keep product containers cool, dry and away from sources of ignition. Use and store this product with adequate ventilation. DO NOT SMOKE in or near storage areas.

SECTION 8 - Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name / CAS No.</th>
<th>OSHA Exposure Limits</th>
<th>ACGIH Exposure Limits</th>
<th>Other Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl acetate 540-88-5</td>
<td>200 ppm TWA; 950 mg/m3 TWA</td>
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<td>NIOSH: 200 ppm TWA; 950 mg/m3 TWA</td>
</tr>
<tr>
<td>n-Butyl acetate 123-86-4</td>
<td>150 ppm TWA; 710 mg/m3 TWA</td>
<td>200 ppm STEL 150 ppm TWA</td>
<td>NIOSH: 150 ppm TWA; 710 mg/m3 TWA 200 ppm STEL; 950 mg/m3 STEL</td>
</tr>
<tr>
<td>ETHYL ACETATE 141-78-6</td>
<td>400 ppm TWA; 1400 mg/m3 TWA</td>
<td>400 ppm TWA</td>
<td>NIOSH: 400 ppm TWA; 1400 mg/m3 TWA</td>
</tr>
<tr>
<td>Nitrocellulose 9004-70-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetone 67-64-1</td>
<td>1000 ppm TWA; 2400 mg/m3 TWA</td>
<td>500 ppm STEL 250 ppm TWA</td>
<td>NIOSH: 250 ppm TWA; 590 mg/m3 TWA</td>
</tr>
<tr>
<td>Ethyl alcohol 64-17-5</td>
<td>1000 ppm TWA; 1900 mg/m3 TWA</td>
<td>1000 ppm STEL</td>
<td>NIOSH: 1000 ppm TWA; 1900 mg/m3 TWA</td>
</tr>
<tr>
<td>Isopropyl alcohol 67-63-0</td>
<td>400 ppm TWA; 980 mg/m3 TWA</td>
<td>400 ppm STEL 200 ppm TWA</td>
<td>NIOSH: 400 ppm TWA; 980 mg/m3 TWA 500 ppm STEL; 1225 mg/m3 STEL</td>
</tr>
<tr>
<td>ISOBUTYL ACETATE 110-19-0</td>
<td>150 ppm TWA; 700 mg/m3 TWA</td>
<td>150 ppm TWA</td>
<td>NIOSH: 150 ppm TWA; 700 mg/m3 TWA</td>
</tr>
<tr>
<td>DOA PLASTICIZER 103-23-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide 13463-67-7</td>
<td>15 mg/m3 TWA (total dust)</td>
<td>10 mg/m3 TWA</td>
<td></td>
</tr>
<tr>
<td>Aluminum 7429-90-5</td>
<td>15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)</td>
<td>1 mg/m3 TWA (respirable fraction)</td>
<td>NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)</td>
</tr>
<tr>
<td>MINERAL SPIRITS 8052-41-3</td>
<td>500 ppm TWA; 2900 mg/m3 TWA</td>
<td>100 ppm TWA</td>
<td>NIOSH: 350 mg/m3 TWA 1800 mg/m3 Ceiling (15 min)</td>
</tr>
<tr>
<td>Solvent naphtha, petroleum, light aromatic 64742-95-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon black 1333-86-4</td>
<td>3.5 mg/m3 TWA</td>
<td>3 mg/m3 TWA (inhalable fraction)</td>
<td>NIOSH: 3.5 mg/m3 TWA; 0.1 mg/m3 TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)</td>
</tr>
</tbody>
</table>
Use local exhaust as required to control vapor concentrations.
Avoid prolonged or repeated breathing of vapors.

**Respiratory Protection:**
If exposure exceeds TLV or PELs, use NIOSH approved respirator to prevent overexposure.

**Skin Protection:**
Required for prolonged or repeated contact. Wear resistant gloves such as natural rubber, neoprene, buna N or nitrile. An apron should be worn to avoid skin contact.

**Eye Protection:**
Wear splash proof goggles and face shield if there is a likelihood of contact with eyes.

**Hygenic Practices**
Wash hands thoroughly before eating or using the restroom. Remove contaminated clothing immediately and do not wear again until it has been properly laundered.

### SECTION 9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vapor Density</strong></td>
<td>Heavier Than Air</td>
</tr>
<tr>
<td><strong>Boiling range:</strong></td>
<td>34 - 214°C</td>
</tr>
<tr>
<td><strong>Freezing point:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Flammability:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Autoignition temperature:</strong></td>
<td>170°C</td>
</tr>
<tr>
<td><strong>Relative Density:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Odor threshold:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SPECIFIC GRAVITY</strong></td>
<td>0.9476</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Grams VOC less water:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>% WT. VOLATILE (VOC)</strong></td>
<td>42.5059</td>
</tr>
<tr>
<td><strong>Lbs VOC/Gallon Solids</strong></td>
<td>16.1604</td>
</tr>
<tr>
<td><strong>SOLIDS VOL%</strong></td>
<td>20.7544</td>
</tr>
<tr>
<td><strong>SPREAD @ 1 MIL</strong></td>
<td>332.9005</td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Colored Liquid</td>
</tr>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Coating VOC (g/l)</strong></td>
<td>598.6002</td>
</tr>
<tr>
<td><strong>Coating VOC (Lb/Gl)</strong></td>
<td>4.9954</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Faster than Butyl Acetate</td>
</tr>
<tr>
<td><strong>Melting point:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>25°F, -4°C</td>
</tr>
<tr>
<td><strong>Explosive Limits:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Solubility</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>% VOLUME VOLATILE (VOC)</strong></td>
<td>46.3871</td>
</tr>
<tr>
<td><strong>% Pig. by wt.</strong></td>
<td>1.8101</td>
</tr>
<tr>
<td><strong>VOLATILE WT%</strong></td>
<td>71.8179</td>
</tr>
<tr>
<td><strong>DENSITY (Lb/Gal)</strong></td>
<td>7.8907</td>
</tr>
<tr>
<td><strong>HAPS (lbs/gl)</strong></td>
<td>0.0043</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Material VOC (g/l)</strong></td>
<td>401.9091</td>
</tr>
<tr>
<td><strong>Material VOC (Lb/Gl)</strong></td>
<td>3.3540</td>
</tr>
</tbody>
</table>

### SECTION 10 - Stability and Reactivity

**Stability:** Stable under normal conditions.

**Materials to Avoid:** Strong oxidizing agents, strong alkalines, strong mineral acids.

**Conditions to avoid:** high heat, sparks, flames, static discharge.

**Hazardous Decomposition:** Oxidation may produce carbon and nitrogen oxides. Hazardous polymerization will not occur.

### SECTION 11 - Toxicological Information
Mixture Toxicity

Inhalation Toxicity LC50: 338mg/L

Component Toxicity

67-63-0 Isopropyl alcohol
Oral LD50: 1,870 mg/kg (Rat)  Dermal LD50: 4,059 mg/kg (Rabbit)

Primary Routes of Entry: Inhalation, Skin Contact, Eyes, Ingestion

Skin:
Skin contact can cause redness, dryness or rash. Prolonged contact can cause irritation, dry skin, cracks, and dermititis.

Ingestion:
Can cause vomiting, nausea, diarrhea, and gastrointestinal irritation.

Inhalation:
Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, fatigue, nausea, headache possible unconsciousness and even asphyxiation. High vapor concentrations or prolonged breathing of lower concentrations may result in damage to the liver, kidneys, lungs and blood forming organs. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Eyes:
Can cause irritation, redness, tearing and blurred vision.

Carcinogenicity: The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing).

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Description</th>
<th>% Weight</th>
<th>Carcinogen Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1333-86-4</td>
<td>Carbon black</td>
<td>0.1 to 1.0%</td>
<td>Carbon black: NIOSH: potential occupational carcinogen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IARC: Possible human carcinogen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA: listed</td>
</tr>
<tr>
<td>13463-67-7</td>
<td>Titanium dioxide</td>
<td>0.1 to 1.0%</td>
<td>Titanium dioxide: NIOSH: potential occupational carcinogen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IARC: Possible human carcinogen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA: listed</td>
</tr>
<tr>
<td>64-17-5</td>
<td>Ethyl alcohol</td>
<td>1 to 5%</td>
<td>Ethyl alcohol: IARC: Human carcinogen</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OSHA: listed</td>
</tr>
<tr>
<td>64742-95-6</td>
<td>Solvent naphtha, petroleum, light</td>
<td>0.1 to 1.0%</td>
<td>Solvent naphtha, petroleum, light</td>
</tr>
<tr>
<td></td>
<td>aromatic</td>
<td></td>
<td>aromatic: EU REACH: Present (P)</td>
</tr>
<tr>
<td>8052-41-3</td>
<td>MINERAL SPIRITS</td>
<td>0.1 to 1.0%</td>
<td>MINERAL SPIRITS: EU REACH: Present (P)</td>
</tr>
</tbody>
</table>

SECTION 12 - Ecological Information

Ecological Information:
Uncontrolled release of the product may result in contamination of air, ground, waterways and/or sewers.

Component Ecotoxicity

tert-Butyl acetate
96 Hr LC50 Pimephales promelas: 296 - 362 mg/L [flow-through]

n-Butyl acetate
96 Hr LC50 Lepomis macrochirus: 100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 17 - 19 mg/L [flow-through]
72 Hr EC50 Desmodesmus subspicatus: 674.7 mg/L

ETHYL ACETATE
96 Hr LC50 Pimephales promelas: 220 - 250 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 484 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 352 - 500 mg/L [semi-static]
48 Hr EC50 Daphnia magna: 560 mg/L [Static]
Acetone
- 96 Hr LC50 Oncorhynchus mykiss: 4.74 - 6.33 mL/L; 96 Hr LC50 Pimephales promelas: 6210 - 8120 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 8300 mg/L
- 48 Hr EC50 Daphnia magna: 10294 - 17704 mg/L [static]; 48 Hr EC50 Daphnia magna: 12600 - 12700 mg/L

Ethyl alcohol
- 96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through]
- 48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static]

Isopropyl alcohol
- 96 Hr LC50 Pimephales promelas: 9640 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 11130 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >1400000 µg/L
- 48 Hr EC50 Daphnia magna: 13299 mg/L

DOA PLASTICIZER
- 96 Hr LC50 Lepomis macrochirus: 0.48 - 0.85 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.48 - 0.85 mg/L [static]; 96 Hr LC50 Pimephales promelas: 0.48 - 0.85 mg/L [static]
- 48 Hr EC50 Daphnia magna: >1.6 mg/L
- 72 Hr EC50 Desmodesmus subspicatus: >500 mg/L

Solvent naphtha, petroleum, light aromatic
- 96 Hr LC50 Oncorhynchus mykiss: 9.22 mg/L
- 48 Hr EC50 Daphnia magna: 6.14 mg/L

SECTION 13 - Disposal Considerations
Do not flush to sewer, watershed or waterway. Dispose of product in accordance with applicable local, county, state and federal regulations. See Section 8 for information on exposure control and necessary personal protective equipment.

SECTION 14 - Transportation Information
Ship according to the Department of Transportation (DOT) 49 CFR regulations.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Proper Shipping Name</th>
<th>UN Number</th>
<th>Packing Group</th>
<th>Hazard Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>PAINT</td>
<td>UN1263</td>
<td>II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Freight Class:</td>
<td></td>
<td></td>
<td>55</td>
</tr>
</tbody>
</table>

SECTION 15 - Regulatory Information

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):
This product contains the following listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.
- 1333-86-4 Carbon black
- 13463-67-7 Titanium dioxide
- 64-17-5 Ethyl alcohol

The following ingredients are listed in the TSCA Section 8(b) Inventory (Hydrated forms of chemical substances are exempt from the inventory as mixtures; the anhydrous chemical substances, however, are reportable for the inventory):
- 1333-86-4 Carbon black
- 64742-95-6 Solvent naphtha, petroleum, light aromatic
- 8052-41-3 MINERAL SPIRITS
- 7429-90-5 Aluminum
- 13463-67-7 Titanium dioxide
- 103-23-1 DOA PLASTICIZER
- 110-19-0 ISOBUTYL ACETATE
- 67-63-0 Isopropyl alcohol
- 64-17-5 Ethyl alcohol
- 68038-41-5 Rosin, maleated, polymer with glycerol
- 67-64-1 Acetone

MG1000G27-1 9/14/2016
9004-70-0  Nitrocellulose
141-78-6  ETHYL ACETATE
123-86-4  n-Butyl acetate
540-88-5  tert-Butyl acetate

US CAA Section 112 Hazardous Air Pollutants (HAPs) List
- None

US EPCRA (SARA Title III) Section 313 - Toxic Chemical:
7429-90-5  Aluminum
67-63-0  Isopropyl alcohol

Hazardous Material Information System (HMIS)

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
<th>PERSONAL PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>X</td>
</tr>
</tbody>
</table>

HMIS & NFPA Hazard Rating
Legend
* = Chronic Health Hazard
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH

SECTION 16 - Disclaimer

Date Prepared: 9/14/2016
Date revised: 2016-09-14
Reviewer Revision 2

THIS DOCUMENT SUPERSEDES ANY PROVISION CONTAINED IN THE FORMS, LETTERS, AND PAPERS OF YOUR COMPANY. THIS PRODUCT IS DESIGNED AND INTENDED FOR PROFESSIONAL APPLICATION ONLY. ALL PRODUCTS SHOULD BE THOROUGHLY TESTED UNDER APPLICATION CONDITIONS PRIOR TO USE. THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE RELIABLE. HOWEVER, GEMINI MAKES NO WARRANTY CONCERNING THIS PRODUCT, WHETHER EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL GEMINI BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR ANY OTHER DAMAGES FROM ALLEGED NEGLIGENCE, BREACH OR WARRANTY, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY ARISING OUT OF THE USE OR HANDLING OF THIS PRODUCT. THE SOLE REMEDY OF THE BUYER AND THE SOLE LIABILITY OF GEMINI FOR ANY CLAIMS SHALL BE LIMITED TO THE BUYER'S PURCHASE PRICE OF THE PRODUCT WHICH IS THE SUBJECT OF THE CLAIM OR THE AMOUNT ACTUALLY PAID FOR SUCH PRODUCT, WHICHER IS LESS. TECHNICAL ADVICE FURNISHED BY GEMINI SHALL NOT CONSTITUTE AN EXPRESS WARRANTY, WHICH IS EXPRESSLY DISCLAIMED. ALL TECHNICAL ADVICE GIVEN IS ACCEPTED AT THE RISK OF THE BUYER.
SAFETY DATA SHEET

SECTION 1  PRODUCT AND COMPANY IDENTIFICATION

PRODUCT
Product Name: POLYREX EM  
Product Description: Base Oil and Additives  
Product Code: 640359-00, 97Q287  
Intended Use: Grease  

COMPANY IDENTIFICATION
Supplier: EXXON MOBIL CORPORATION  
3225 GALLOWS RD.  
FAIRFAX, VA.  22037     USA  
24 Hour Health Emergency 609-737-4411  
Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC  
Product Technical Information 800-662-4525, 800-947-9147  

SECTION 2  HAZARDS IDENTIFICATION

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

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1900.1200.

PHYSICAL / CHEMICAL HAZARDS
No significant hazards.

HEALTH HAZARDS
High-pressure injection under skin may cause serious damage. Mildly irritating to skin. May be irritating to the eyes, nose, throat, and lungs.

ENVIRONMENTAL HAZARDS
No significant hazards.

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

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.
SECTION 3  COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS#</th>
<th>Concentration*</th>
<th>GHS Hazard Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1H-IMIDAZOLE-1-ETHANOL, 4,5-DIHYDRO-, 2-NORTALL-</td>
<td>61791-39-7</td>
<td>0.1 - &lt; 1%</td>
<td>H314(1B)</td>
</tr>
<tr>
<td>OIL ALKYL DERIVS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMINES, C12-14-ALKYL, ISOOCTYL PHOSPHATES</td>
<td>68187-67-7</td>
<td>1 - &lt; 5%</td>
<td>H315</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4  FIRST AID MEASURES

INHALATION
Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

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

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

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

SECTION 5  FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to
Hazardous Combustion Products: Smoke, Fume, Aldehydes, Sulfur oxides, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES
Flash Point [Method]: >204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D  UEL: N/D
Autoignition Temperature: N/D

SECTION 6  ACCIDENTAL RELEASE MEASURES

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

PROTECTIVE MEASURES
Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT
Land Spill: Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Skim from surface.

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

ENVIRONMENTAL PRECAUTIONS
Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7  HANDLING AND STORAGE
HANDLING
Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE
Do not store in open or unlabelled containers.

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

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:
No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

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

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:
No protection is ordinarily required under normal conditions of use and with adequate ventilation.

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

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

Eye Protection: If contact is likely, safety glasses with side shields are recommended.
Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
Chemical/oil resistant clothing is recommended.

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

ENVIRONMENTAL CONTROLS
Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION
Physical State: Solid
Form: Semi-fluid
Color: Blue
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 °C): 0.884
Flammability (Solid, Gas): N/A
Flash Point [Method]: >204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D
Autoignition Temperature: N/D
Boiling Point / Range: >330°C (626°F) [Estimated]
Decomposition Temperature: N/D
Vapor Density (Air = 1): N/D
Vapor Pressure: <0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): >3.5 [Estimated]
Solubility in Water: Negligible
Viscosity: 95 cSt (95 mm2/sec) at 40 °C
Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION
Freezing Point: N/D
Melting Point: >250°C (482°F)
DMSO Extract (mineral oil only), IP-346: <3 %wt

NOTE: Most physical properties above are for the oil component in the material.
SECTION 10  STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

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

MATERIALS TO AVOID: Strong oxidizers

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

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11  TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Conclusion / Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity: No end point data for material.</td>
<td>Minimally Toxic. Based on assessment of the components.</td>
</tr>
<tr>
<td>Irritation: No end point data for material.</td>
<td>Negligible hazard at ambient/normal handling temperatures.</td>
</tr>
<tr>
<td>Ingestion</td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity: No end point data for material.</td>
<td>Minimally Toxic. Based on assessment of the components.</td>
</tr>
<tr>
<td>Skin</td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity: No end point data for material.</td>
<td>Minimally Toxic. Based on assessment of the components.</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation: No end point data for material.</td>
<td>Mildly irritating to skin with prolonged exposure. Based on assessment of the components.</td>
</tr>
<tr>
<td>Eye</td>
<td></td>
</tr>
<tr>
<td>Serious Eye Damage/Irritation: No end point data for material.</td>
<td>May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.</td>
</tr>
<tr>
<td>Sensitization</td>
<td></td>
</tr>
<tr>
<td>Respiratory Sensitization: No end point data for material.</td>
<td>Not expected to be a respiratory sensitizer.</td>
</tr>
<tr>
<td>Skin Sensitization: No end point data for material.</td>
<td>Not expected to be a skin sensitizer. Based on assessment of the components.</td>
</tr>
<tr>
<td>Aspiration: Data available.</td>
<td>Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity: No end point data for material.</td>
<td>Not expected to be a germ cell mutagen. Based on assessment of the components.</td>
</tr>
<tr>
<td>Carcinogenicity: No end point data for material.</td>
<td>Not expected to cause cancer. Based on assessment of the components.</td>
</tr>
<tr>
<td>Reproductive Toxicity: No end point data for material.</td>
<td>Not expected to be a reproductive toxicant. Based on assessment of the components.</td>
</tr>
<tr>
<td>Lactation: No end point data for material.</td>
<td>Not expected to cause harm to breast-fed children.</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (STOT)</td>
<td></td>
</tr>
<tr>
<td>Single Exposure: No end point data for material.</td>
<td>Not expected to cause organ damage from a single exposure.</td>
</tr>
<tr>
<td>Repeated Exposure: No end point data for material.</td>
<td>Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.</td>
</tr>
</tbody>
</table>
OTHER INFORMATION

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

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

--REGULATORY LISTS SEARCHED--
1 = NTP CARC
2 = NTP SUS
3 = IARC 1
4 = IARC 2A
5 = IARC 2B
6 = OSHA CARC

SECTION 12  ECOLOGICAL INFORMATION

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

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

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

PERSISTENCE AND DEGRADABILITY
Biodegradation:
Base oil component -- Expected to be inherently biodegradable

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

SECTION 13  DISPOSAL CONSIDERATIONS

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

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

REGULATORY DISPOSAL INFORMATION

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

Empty Container Warning

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

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

    Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Complies with the following national/regional chemical inventory requirements: AICS, IECSC, KECI, TSCA

Special Cases:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>NDSL</td>
<td>Restrictions Apply</td>
</tr>
</tbody>
</table>

EPCRA SECTION 302: This material contains no extremely hazardous substances.
SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

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

The following ingredients are cited on the lists below:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>List Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIPHENYLAMINE</td>
<td>122-39-4</td>
<td>18</td>
</tr>
</tbody>
</table>

--REGULATORY LISTS SEARCHED--

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

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16

OTHER INFORMATION

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

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):
H314(1B): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1B
H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
Updates made in accordance with implementation of GHS requirements.

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MHC: 0B, 0B, 0, 0, 2, 0
PPEC: A
DGN: 2026672XUS (1008419)