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

1. **Product and Company Identification**

   **The Lubrizol Corporation**  
   29400 Lakeland Boulevard  
   Wickliffe, Ohio 44092  
   Tel: (440) 943-4200

   **Product Trade Name**  
   PERKINS DIESEL FUEL CONDITIONER

   **CAS Number**  
   Not applicable for mixtures.

   **Synonyms**  
   CAT Diesel Fuel Conditioner

   **Generic/Chemical Name**  
   Confidential.

   **Product Use**  
   Miscellaneous fuel additive.

   **Prepared By**  
   Product Safety and Compliance Department (440) 943-4200

   **Preparation/Revision Date**  
   20 February 2009

   **Transportation Emergency Phone No.**  
   FOR TRANSPORT EMERGENCY call CHEMTREC: (+1) 703-527-3887 (outside the U.S.), 1-800-424-9300 (in the U.S.)

   **MSDS No.**  
   76754241-9429512-1092910-102103

   **WHMIS Hazard Class**  
   B-3 D-2A

   **HMIRC Registry Number**  
   Not Registered

   **HMIRC Exemption**  
   Not Registered

   **HMIRC Filing/Grant Date**  
   Not applicable.

2. **Hazards Identification**

   **Principal Hazards**  
   Warning.

   - Harmful if inhaled.
   - Causes eye irritation.
   - Causes skin irritation.
   - Combustible liquid.
   - May cause allergic skin reaction.
   - Contains components which may cause cancer.
   - May cause chronic health effects.

   *See Section 11 for complete health hazard information.*

3. **Composition/Information on Ingredients**

   **Hazardous Ingredients**

<table>
<thead>
<tr>
<th>Comp</th>
<th>CAS No.</th>
<th>Percentage (by wt.)</th>
<th>OSHA Exposure Guidelines</th>
<th>ACGIH Exposure Guidelines</th>
<th>Other Exposure Guidelines</th>
<th>Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>From 50 to</td>
<td>TWA</td>
<td>STEL</td>
<td>TWA</td>
<td>STEL</td>
</tr>
</tbody>
</table>

Page 1 of 8
2-Ethylhexyl nitrate | 27247-96-7 | 59.9 percent | N/E | N/E | N/E | N/E | 1 ppm (l) | N/E | N/E
Petroleum naphtha | 64742-88-7 | From 10 to 19.9 percent | N/E | N/E | N/E | N/E | 100 ppm (u) | 200 ppm (u) | N/E
Hydroxyethylated aminoethylamide | Confidential | From 5 to 9.9 percent | N/E | N/E | N/E | N/E | N/E | IARC Suspect Carcinogen NTP Carcinogen
Naphthalene | 91-20-3 | 1.3% | 10 ppm | N/E | 10 ppm (s) | 15 ppm | N/E | N/E
1,2,4-Trimethylbenzene | 95-63-6 | From 0.1 to 0.9 percent | N/E | N/E | N/E | N/E | N/E | N/E

(s) - Skin exposure
(p) - Proposed limit
(c) - Ceiling exposure
(l) - Recommended exposure limit
(u) - Supplier recommended exposure limit
(N/E) - None established
Confidential - Withheld under an HMIRC Claim

4 First Aid Measures

Ingestion
DO NOT INDUCE VOMITING. Aspiration of material due to vomiting can cause chemical pneumonitis which can be fatal. Get immediate medical attention. If vomiting occurs naturally, the casualty should lean forward to reduce the risk of aspiration.

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 attention.

Skin
Wash with plenty of soap and water. Remove contaminated clothing. If skin irritation occurs, get medical attention. Launder contaminated clothing before reuse and discard leather articles saturated with the material.

Inhalation
Remove exposed person to fresh air if adverse effects are observed. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. If irritation persists or if toxic symptoms are observed, get medical attention.

5 Fire Fighting Measures

Flash Point
72 °C, 161.6 °F PMCC (Typical)

Extinguishing Media
CO2, dry chemical, or foam. Water can be used to cool and protect exposed material.

Firefighting Procedures
Recommend wearing self-contained breathing apparatus. Water may cause splattering.

Unusual Fire & Explosion Hazards
Vapors may be heavier than air and may travel along the ground to a distant ignition source and flash back. Container may rupture on heating. Toxic nitrogen oxides may evolve when burning. The alkyl nitrate contained in this product may decompose exothermically if heated above 120° C. Studies in the Koenen Tube Test indicate that the reaction is non-explosive even when the alkyl nitrate is present at levels up to 70%.

6 Accidental Release Measures

Spill Procedures
Evacuate all non-essential personnel. Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Remove sources of ignition. Ventilate spill area. Prevent entry into sewers and waterways, dispose of in accordance with all federal,
Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Check under Transportation and Labeling (DOT/CERCLA) and Other Regulatory Information Section (SARA) for hazardous substances to determine regulatory reporting requirements for spills.

<table>
<thead>
<tr>
<th>7</th>
<th>Handling and Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pumping Temperature</strong></td>
<td>Ambient</td>
</tr>
<tr>
<td><strong>Maximum Handling Temperature</strong></td>
<td>55 °C, 131 °F</td>
</tr>
<tr>
<td><strong>Handling Procedures</strong></td>
<td>Keep away from potential sources of ignition. Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. DO NOT HEAT. Avoid breathing dust, fume, gas, mist, vapors or spray. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Launder contaminated clothing before reuse. Empty containers retain material residue. Do not cut, weld, braze, solder, drill, grind or expose containers to heat, flame, spark or other sources of ignition.</td>
</tr>
<tr>
<td><strong>Maximum Storage Temperature</strong></td>
<td>45 °C, 113 °F</td>
</tr>
<tr>
<td><strong>Storage Procedures</strong></td>
<td>Do not store near potential sources of ignition. Store in well ventilated place. Take precautions to avoid release to the environment. Store at ambient temperatures. Keep container tightly closed.</td>
</tr>
<tr>
<td><strong>Loading Temperature</strong></td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8</th>
<th>Exposure Controls/Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Other Exposure Limits</strong></td>
<td>Contains mineral oil. Under conditions which may generate mists, observe the OSHA PEL of 5 mg per cubic meter, ACGIH STEL of 10 mg per cubic meter. The recommended TWA for 2-Ethylhexyl nitrate is 1 PPM.</td>
</tr>
<tr>
<td><strong>Engineering Controls</strong></td>
<td>Use material in well ventilated area only. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits.</td>
</tr>
<tr>
<td><strong>Gloves Procedures</strong></td>
<td>Use nitrile or neoprene gloves.</td>
</tr>
<tr>
<td><strong>Eye Protection</strong></td>
<td>Safety glasses. If potential for splash or mist exists, wear chemical goggles or faceshield.</td>
</tr>
<tr>
<td><strong>Respiratory Protection</strong></td>
<td>Use full face respirator with an organic vapor cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.</td>
</tr>
<tr>
<td><strong>Clothing Recommendation</strong></td>
<td>Gloves, coveralls, apron, boots as necessary to minimize contact. Wear either a chemical protective suit or apron when potential for contact with material exists. Use chemically protective boots when necessary to avoid contaminating shoes. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. Launder contaminated clothing before reuse.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flash Point</strong></td>
<td>72 °C, 161.6 °F PMCC (Typical)</td>
</tr>
<tr>
<td><strong>Upper Flammable Limit</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Lower Flammable Limit</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Autoignition Point</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Explosion Data</strong></td>
<td>Material does not have explosive properties.</td>
</tr>
</tbody>
</table>
Vapour Pressure   Not available.
P pH               Not available.
Specific Gravity  0.94 (15.6 °C)
Bulk Density      7.85 Lb/gal, 0.94 Kg/L
Water Solubility  Insoluble.
Percent Solid     Not available.
Percent Volatile  Not available.
Volatile Organic Compound   Not available.
Vapour Density    Not available.
Evaporation Rate  Not available.
Odor              Aromatic hydrocarbon
Appearance        Clear Liquid.
Viscosity         9.6 Centistokes (25 °C)
                   6.6 Centistokes (40 °C)
Odor Threshold    Not available.
Boiling Point     Not available.
Pour Point Temperature  < -40 °C, < -40 °F
Melting / Freezing Point  Not available.

The above data are typical values and do not constitute a specification.

<table>
<thead>
<tr>
<th>10</th>
<th>Stability and Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Material can become unstable at elevated temperatures and pressures.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Polymerization</td>
<td>Will not occur.</td>
</tr>
<tr>
<td>Thermal Decomposition</td>
<td>Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11</th>
<th>Toxicological Information</th>
</tr>
</thead>
</table>

-- ACUTE EXPOSURE --

**Oral Toxicity**
The LD50 in rats is > 5000 mg/kg. Based on data from components or similar materials. Swallowing this material causes irritation of mouth, esophagus and stomach, with nausea, vomiting, diarrhea and abdominal pain. Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death.

**Eye Irritation**
Moderate to strong eye irritation. Based on data from components or similar material.

**Skin Irritation**
Skin irritant. Based on data from components or similar materials. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.

**Dermal Toxicity**
The LD50 in rabbits is > 2000 mg/Kg. Based on data from components or similar materials. Overexposure to organic nitrates by skin contact may cause headache, nausea and decreased blood pressure.

**Inhalation Toxicity**
Aerosols of this material may be toxic by inhalation. Based on data from components or similar materials. High concentrations may cause headaches, dizziness, nausea, stupor, and other central nervous system effects leading to visual impairment, difficulty breathing and convulsions. Overexposure to organic nitrates by inhalation may cause headache, nausea and decreased blood pressure.
Respiratory Irritation
If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract similar to that observed with mineral oil. Based on data from components or similar materials. Under good industrial hygiene practices where all exposure limits are observed, respiratory irritation should not be a problem. Exposure to a high concentration of vapor or mist is irritating to the respiratory tract. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease. If fatty acids are over-heated, vapors or entrained mist may cause respiratory irritation.

Dermal Sensitization
May cause skin sensitization. Based on data from components or similar materials.

Inhalation Sensitization
No data available to indicate product or components may be respiratory sensitizers.

--- CHRONIC EXPOSURE ---

Chronic Toxicity
Repeated overexposure to petroleum naphtha can cause nervous system damage. Repeated overexposure to naphthalene may cause destruction of red blood cells with anemia, fever, jaundice and kidney and liver damage.

Carcinogenicity
A two-year National Toxicology Program (NTP) study found an increased incidence of tumors of the nose in rats exposed to naphthalene by inhalation. In mice similarly exposed, increased incidences of alveolar/bronchiolar adenomas were observed. Naphthalene has been classified by the International Agency for Research on Cancer (IARC) as a possible human carcinogen (Group 2B) on the basis of sufficient evidence of carcinogenicity in experimental animals but inadequate evidence in exposed humans. This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

Reproductive Toxicity
No data available to indicate either product or components present at greater than 0.1% that may cause reproductive toxicity.

Teratogenicity
No data available to indicate product or any components contained at greater than 0.1% may cause birth defects.

Mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

--- ADDITIONAL INFORMATION ---

Other
No other health hazards known.

--- ENVIRONMENTAL TOXICITY ---

Freshwater Fish Toxicity
The acute LC50 is 10 - 100 mg/L based on component data.

Freshwater Invertebrates Toxicity
The acute EC50 is 1 - 10 mg/L based on component data.

Algal Inhibition
The acute EC50 is 10 - 100 mg/L based on component data.

Saltwater Fish Toxicity
Not available.

Saltwater Invertebrates Toxicity
Not available.

Bacteria Toxicity
The acute EC50 is 10 - 100 ppm based on component data.

Miscellaneous Toxicity
Not available.

--- ENVIRONMENTAL FATE ---

Biodegradation
At least 25% of the components in this product show limited biodegradation based on OECD 301-type test data.

Bioaccumulation
25% or greater of the components potentially bioconcentrate, based on measured octanol/water partition coefficients.

Soil Mobility
Not available.
### Disposal Considerations

**Waste Disposal**

This material, if discarded, is not a hazardous waste under RCRA Regulation 40 CFR 261. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

### Transport Information

**ICAO/IATA II**
UN3082 Environmentally hazardous substance, liquid, n.o.s. (Alkyl (C7-C9) nitrates, Petroleum naphtha), Class 9, PG III, Marine Pollutant

**IMDG**
UN3082 Environmentally hazardous substance, liquid, n.o.s. (Alkyl (C7-C9) nitrates, Petroleum naphtha), Class 9, PG III, Marine Pollutant

**IMDG EMS Fire**
F-A

**IMDG EMS Spill**
S-F

**IMDG MFAG**
None

**MARPOL Annex II**
Not determined.

**USCG Compatibility**
Not available.

**TDG Bulk**
UN3082 Environmentally hazardous substance, liquid, n.o.s. (Alkyl (C7-C9) nitrates, Petroleum naphtha), Class 9, PG III, Marine Pollutant

**TDG Non-Bulk**
Not regulated

**U.S. DOT Bulk**
NA1993 Combustible liquid, n.o.s. (2-Ethylhexyl nitrate, Petroleum naphtha), PG III, Marine Pollutant (Alkyl (C7-C9) nitrates, Petroleum naphtha), RQ (Naphthalene, Xylene)

**U.S. DOT Non-Bulk**
Not regulated

**DOT NAERG**
128

**Bulk Quantity**
85000 liters, 22457 gal.

**Non-Bulk Quantity**
207.8 liters, 55 gal.

*Review classification requirements before shipping materials at elevated temperatures*

### Regulatory Information

-- Global Chemical Inventories --

**USA**
All components of this material are on the US TSCA Inventory or are exempt.

**EU**
All components are in compliance with the EC Seventh amendment Directive 92 /32/EEC.

**Japan**
All components are in compliance with the Chemical Substances Control Law of Japan.

**Australia**
All components are in compliance with chemical notification requirements in Australia.

**New Zealand**
May require notification before sale under New Zealand regulations.

**Canada**
All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

**Switzerland**
All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

**Korea**
This product requires notification before sale in Korea.

**Philippines**
All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

**China**
All components of this product are listed on the Inventory of Existing Chemical Substances in China.
-- Product Registrations --

U.S. Dept of Agriculture
This product has not been filed with the USDA to support H2 approvals.

NSF Nonfood Compounds Registration
This product has not been filed with the NSF to support H1 or H2 approvals.

Finnish Registration Number
Not Registered

Swedish Registration Number
Not Registered

Norwegian Registration Number
Not Registered

Danish Registration Number
Not Registered

Swiss Registration Number
Not Registered

Italian Registration Number
Not Registered

Korean Registration Number
Not Registered

-- Other / International --

TDG Regulated Limits
None known.

FDA Approval
Not applicable.

Other TSCA Reg.
Section 4a (Naphthalene).
May be subject to export notification under TSCA Section 12(b).

This product does not contain greater than 1.0% of any chemical substance on the SARA Extremely Hazardous Substances list.

SARA Section 313
1.3% Naphthalene, CAS no. 91-20-3

CERCLA Hazardous Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>990 gal.</td>
<td>3746 liters</td>
</tr>
<tr>
<td>Xylene</td>
<td>3348 gal.</td>
<td>12672 liters</td>
</tr>
</tbody>
</table>

Cal. Prop. 65
This product contains the following chemical(s) known to the state of California to cause cancer and/or birth defects: 0.002% Benzene, CAS no. 71-43-2 0.058% Ethylbenzene, CAS no. 100-41-4 1.3% Naphthalene, CAS no. 91-20-3

| 16 | Other Information |

US NFPA Codes

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
<th>Special</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>N/E</td>
</tr>
</tbody>
</table>

HMIS Codes

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2*</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Precautionary Labels
Warning.
- Harmful if inhaled.
- Causes eye irritation.
- Causes skin irritation.
- Combustible liquid.
- May cause allergic skin reaction.
- Contains components which may cause cancer.
- May cause chronic health effects.
<table>
<thead>
<tr>
<th>Revision Indicators</th>
<th>Section: 7 Storage procedures.</th>
<th>Changed: 19 July 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Section: 9 Odor threshold.</td>
<td>Changed: 7 January 2009</td>
</tr>
<tr>
<td></td>
<td>Section: 9 Percent volatile.</td>
<td>Changed: 7 January 2009</td>
</tr>
<tr>
<td></td>
<td>Section: 15 MISC. Regulatory info.</td>
<td>Changed: 19 July 2008</td>
</tr>
<tr>
<td></td>
<td>Section: 16 Miscellaneous information.</td>
<td>Changed: 19 July 2008</td>
</tr>
</tbody>
</table>

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