Section 1
Identification of substance/mixture and of the company/undertaking

1.1 Product Identifier
PERKINS DFSC PART NO T400012

Synonyms
None.

1.2 Relevant identified uses of the substance or mixture and (uses advised against)
Relevant identified uses (see section 7.3 for information on REACH registered uses)
Multipurpose.

1.3 Details of the supplier of the safety data sheet
The Lubrizol Corporation
29400 Lakeland Boulevard
Wickliffe, Ohio 44092
Tel: (440) 943-4200
E-mail contact EUSDS@lubrizol.com

1.4 Emergency Telephone number
FOR TRANSPORT EMERGENCY call CHEMTREC: (+1) 703-527-3887 (outside the U.S.), 1-800-424-9300 (in the U.S.)

Section 2
Hazards Identification

2.1 Classification of the substance or mixture
(EC) No 1272/2008
Skin Irrit. 2; H315
Eye Irrit. 2; H319
67/548/EC or 1999/45/EC
This product does not meet the classification requirements of the current European legislation.
For a full text of R- and H- phrases: See section 16

2.2 Label elements
(EC) No 1272/2008

Warning.
Causes skin irritation.
Causes serious eye irritation.

Wear protective gloves / eye protection / face protection. Wash thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical 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 attention.
Store away from acids.
All disposal practices must be in accordance with local, national and international regulations.

Supplemental label information
None.

2.3 Other hazards
None identified.

Section 3
Composition/Information on Ingredients

3.2 Mixtures
(EC) No 1272/2008

<table>
<thead>
<tr>
<th>EC No.</th>
<th>Registration Number</th>
<th>Percentage (by wt.)</th>
<th>Name</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>265-149-8</td>
<td>Not Available</td>
<td>From 20 to 29.9 percent</td>
<td>Petroleum distillates, hydrotreated light</td>
<td>Asp. Tox. 1; H304 Flam. Liq. 3; H226</td>
</tr>
</tbody>
</table>
Section 4  First Aid Measures

4.1 Description of first aid measures

Skin
Immediately remove contaminated clothing and flush with cool water for at least 15 minutes. Get emergency medical help. Immediately remove contaminated clothing. If skin irritation occurs, get medical attention. Launder contaminated clothing before reuse and discard leather articles saturated with the material.

Eyes
Rinse cautiously with water for 20 minutes or until chemical is removed. Remove contact lenses, if present and easy to do. Immediately call a poison center or doctor.

Inhaled
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is labored, administer oxygen. If breathing has stopped, apply artificial respiration. Call a poison center or doctor.

Swallowed
Do NOT induce vomiting. Never give anything by mouth to a person who is losing consciousness, unconscious or convulsing. Rinse mouth and then drink plenty of water, seek medical attention. Call a poison center or doctor if exposed or you feel unwell.

Advice for first-aid providers
When providing first aid always protect yourself against exposure to chemicals or blood born diseases by wearing gloves, masks and eye protection. If providing CPR use mouthpieces, resuscitation bags, pocket masks or other ventilation devices. After providing first aid wash your exposed skin with soap and water.

4.2 Most important symptoms and effects, both acute and delayed
See section 11.

4.3 Indication of any immediate medical attention and special treatment needed
Note to physician: Treat symptomatically.

Section 5  Fire Fighting Measures

5.1 Extinguishing Media
CO2, dry chemical, foam, water spray, water fog. Water can be used to cool and protect exposed material.

5.2 Special hazards arising from substance or mixture
Explosion risk in case of fire. Toxic fumes, gases or vapors may evolve on burning. 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. Keep material away from heat, sparks, pilot lights, static electricity and open flame.
Vapors may form explosive mixtures with air. If possible, immediately isolate from fire. May explode when heated. Liquid evaporates and forms vapor (fumes) which can catch fire and burn. Prevent static discharge. DO NOT USE a solid stream of water. See section 10 for additional information.

5.3 Advice for firefighters
Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coat, pants, gloves and boots. Water may cause splattering. Use water to cool containers exposed to fire. A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. Leaking gas fires: Do not extinguish, unless leak can be stopped safely. If possible, immediately isolate material from fire. Use water with care to avoid possible violent production of steam. In case of fire, evacuate area. Do not release chemically contaminated water into drains, soil or surface water.

Section 6  Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Only trained personnel should be permitted in area. Personal protective equipment must be worn. Ventilate area if spilled in a confined space or other poorly ventilated area. Eliminate all ignition sources if safe to do so.

6.2 Environmental precautions
Material will float on water. Do not flush into surface water, sanitary sewer or ground water system.

6.3 Methods and material for containment and cleaning up
6.4 Reference to other sections

See sections 8 and 13 for additional information.

<table>
<thead>
<tr>
<th>Section 7</th>
<th>Handling and Storage</th>
</tr>
</thead>
</table>

7.1 Precautions for safe handling
Keep away from potential sources of ignition. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Vapours are heavier than air and will tend to accumulate in low areas. Avoid use in confined areas without adequate ventilation. Areas of inadequate ventilation could contain concentrations high enough to cause eye irritation, headaches, respiratory discomfort or nausea. Carefully evaluate processes using this product at elevated temperatures to ensure safe operating conditions. Avoid breathing dust, fume, gas, mist, vapors or spray. Electrostatic buildup may occur when pouring or transferring this product from its container. The spark produced may be sufficient to ignite vapors of flammable liquids. Always transfer product by means which avoid static buildup. Avoid pouring product directly from its container into combustible or flammable solvent. Static ignition hazard can result from handling and use. Electrically bond and ground all containers and equipment before transfer or use of material. Keep container tightly closed. Isolate from sources of heat, sparks, and open flame. No sparking tools should be used. Use grounding and bonding connection when transferring material to prevent static discharge, fire and explosion. Use spark-resistant tools. Do not breathe thermal decomposition products. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. 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. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

Pumping Temperature
Ambient

Maximum Handling Temperature
50 °C, 122 °F

Loading Temperature
50 °C, 122 °F

7.2 Conditions for safe storage, including any incompatibilities
Keep material away from heat, sparks, pilot lights, static electricity and open flame. Store in a well-ventilated place. Keep cool. Do not store or handle in aluminum equipment at temperatures over 120 deg F (49 deg C). Store at a temperature between 34 deg F and 120 deg F (between 1 deg C and 49 deg C). Store in containers made of same material as original container. Shelf life is two (2) years. Do not store near alkalis. Do not store near acids. See section 10 for incompatible materials.

Maximum Storage Temperature
45 °C, 113 °F

7.3 Specific end use(s)
End uses are listed in an attached exposure scenario when one is required.

<table>
<thead>
<tr>
<th>Section 8</th>
<th>Exposure Controls/Personal Protection</th>
</tr>
</thead>
</table>

8.1 Control parameters

<table>
<thead>
<tr>
<th>Country</th>
<th>Substance</th>
<th>Long Term (8 Hours T.W.A.)</th>
<th>Short Term (15 mins.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>2-Ethylhexanol</td>
<td>50 ppm</td>
<td>100 ppm</td>
</tr>
<tr>
<td>Poland</td>
<td>2-Ethylhexanol</td>
<td>160 mg/cu. M</td>
<td>320 mg/cu. M</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2-Ethylhexanol</td>
<td>20 ppm</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Germany (TRGS 900)</td>
<td>2-Ethylhexanol</td>
<td>20 ppm</td>
<td>N/E</td>
</tr>
</tbody>
</table>

Other Exposure Limits
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.

8.2 Exposure controls
Use local exhaust ventilation to control mists or vapors. Additional ventilation or exhaust may be required to maintain air concentrations below recommended exposure limits. Use explosion proof equipment.

Eye/face protection
Chemical goggles or faceshield.

Skin protection
Natural Rubber. Polyvinyl chloride. Viton. Recommended order of use: 4H, Butyl, Neoprene, Nitrile, PVC-coated. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear. Long sleeve shirt is recommended. Wear either a chemical protective suit or apron when potential for contact with material exists. Do not wear rings, watches or similar apparel that could entrap the material and cause a skin reaction. Launder contaminated clothing before reuse.

Respiratory Protection
Use full face respirator with a combination organic vapor and dust/mist 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.

Hygiene Measures
Wash thoroughly after handling this product.
## Section 9 Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark red liquid.</td>
</tr>
<tr>
<td>Odour</td>
<td>Mild</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Boiling Point Range</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>67 °C, 152.6 °F PMCC (Typical)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Lower flammability or explosive limit</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper flammability or explosive limit</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.89 (15.6 °C)</td>
</tr>
<tr>
<td>Bulk Density</td>
<td>7.44 Lb/gal, 0.89 Kg/L</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>2600 Centistokes (0 °C)</td>
</tr>
<tr>
<td></td>
<td>225 Centistokes (40 °C)</td>
</tr>
<tr>
<td>Autoignition Point</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Material does not have explosive properties.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Material is a non-oxidising substance.</td>
</tr>
</tbody>
</table>

### 9.2 Other information

Pour Point Temperature: -54 °C, -65 °F

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

## Section 10 Stability and Reactivity

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 - 10.6.

### 10.2 Chemical stability

Material is normally stable at moderately elevated temperatures and pressures.

### 10.3 Possibility of hazardous reactions

Will not occur.

### 10.4 Conditions to avoid

Do not expose to excessive heat, ignition sources, or oxidizing materials. Elevated temperatures. Contact with strong oxidizers. Contact with strong caustic agents. Acids.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion. Under combustion conditions, oxides of the following elements will be formed: nitrogen.
Section 11 Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Oral
The LD50 in rats is > 2000 mg/Kg. Based on data from components or similar materials. Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain. Ingestion may cause CNS depression. Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in pulmonary edema and chemical pneumonitis.

Dermal
The LD50 in rabbits is > 5000 mg/Kg. Based on data from components or similar materials.

Inhalation
The LC50 (4 hr.) in rats for dust or mist of this material is 5.0 - 50 mg/l. Based on data from components or similar materials. High concentrations may cause headaches, dizziness, nausea, behavioral changes, weakness, drowsiness and stupor.

<table>
<thead>
<tr>
<th>Percentage (by wt.)</th>
<th>LC50 (4 Hr.)</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethylhexanol</td>
<td>2.7mg/l</td>
<td>Particulate/Mist</td>
</tr>
</tbody>
</table>

Skin corrosion / irritation
Skin irritant. Based on data from 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.

Serious eye damage / irritation
Weak to moderate eye irritant. Does not meet EU R36 criteria. Based on data from similar materials.

Respiratory Irritation
Nose, throat and lung irritant. Based on data from similar materials. Exposure to a high concentration of vapor or mist may cause severe irritation to the nose and upper respiratory tract. Breathing of vapor or mist may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Respiratory or skin sensitization
Skin
No data available to indicate product or components may be a skin sensitizer.

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

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

Carcinogenicity
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.

No evidence of adverse effects were found in a developmental toxicity study of 2-ethylhexanol in rats. Doses up to 3 ml/kg applied to the skin during the most critical part of the gestation period produced evidence of toxicity to mothers, but no evidence of injury in the developing offspring. In a previous study, birth defects were observed by oral administration, an unlikely route of exposure in the workplace.

STOT repeated exposure
Repeated overexposure to petroleum naphtha can cause nervous system damage. A 14-day dermal toxicity study of 2-ethylhexanol in rats showed blood effects, decreased spleen weight and decreased triglycerides. Repeated ingestion of 2-ethylhexanol may cause injury to the liver and kidneys.

Other information
No other health hazards known.

Section 12 Ecological Information

12.1 Toxicity
Freshwater fish
Not determined.

Freshwater invertebrates
Not determined.

Algae
Not determined.

Saltwater fish
Not determined.

Saltwater invertebrates
Not determined.

Bacteria
Not determined.

12.2 Persistence and degradability
Not applicable.

12.3 Bioaccumulative potential
12.4 Mobility in soil
Not applicable.

12.5 Results of PBT and vPvB assessment
Not Available

12.6 Other adverse effects
None known.

<table>
<thead>
<tr>
<th>Section 13</th>
<th>Disposal Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.1 Waste treatment methods</td>
<td></td>
</tr>
</tbody>
</table>
All disposal practices must be in accordance with local, regional, national and international regulations.
Empty container retains product residue and can be hazardous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat, flame, sparks, static electricity, or other sources of ignition. Dispose of packaging or containers in accordance with local, regional, national and international regulations.

<table>
<thead>
<tr>
<th>Section 14</th>
<th>Transport Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN number</td>
<td></td>
</tr>
</tbody>
</table>
ADR/RID Not regulated
ICAO Not regulated
IMDG Not regulated

| 14.2 UN proper shipping name |
ADR/RID Not regulated
ICAO Not regulated
IMDG Not regulated

| 14.3 Transport hazard class(es) |
ADR/RID Not regulated
ICAO Not regulated
IMDG Not regulated

| 14.4 Packing group |
ADR/RID Not regulated
ICAO Not regulated
IMDG Not regulated

| 14.5 Environmental hazards |
ADR/RID Not applicable.
ICAO Not applicable.
IMDG Not applicable.

| 14.6 Special precautions for users |
Review classification requirements before shipping materials at elevated temperatures.

| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC code |
Not determined.

<table>
<thead>
<tr>
<th>Section 15</th>
<th>Regulatory Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.1 Safety, health and environment regulations / legislation specific for the substance or mixture</td>
<td></td>
</tr>
</tbody>
</table>
Global Chemical Inventories
Australia A component(s) of this product has been notified and assessed under the Industrial Chemicals Act of 1989. This product may be imported only by Lubrizol Australia.
Canada All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.
China This product may be imported to China only by Lubrizol China.
EU All components are in compliance with the EC Seventh amendment Directive 92/32/EEC.
Japan This product requires notification in Japan.
Korea All components are in compliance in Korea.
New Zealand All components are in compliance with chemical notification requirements in New Zealand.
Philippines All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).
Switzerland All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.
Taiwan May require notification before sale in Taiwan.
15.2 Chemical safety assessment

No chemical safety assessment has been carried out.

<table>
<thead>
<tr>
<th>Section 16</th>
<th>Other Information</th>
</tr>
</thead>
</table>

Created by
Product Safety and Compliance Department (440-943-1200)

Created Date
19 March 2009

Revision date
04 August 2011

SDS No.
11044042-1501218-0011131-102103

HMIS Codes

<table>
<thead>
<tr>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Relevant R Phrases

R20: -- Harmful by inhalation.
R36/37/38: -- Irritating to eyes, respiratory system and skin.
R65: -- Harmful: may cause lung damage if swallowed.

Relevant hazard phrases

H226: - Flammable liquid and vapor.
H304: - May be fatal if swallowed and enters airways.
H315: - Causes skin irritation.
H319: - Causes serious eye irritation.
H322: - Harmful if inhaled.
H335: - May cause respiratory irritation.

Revision Indicators

Section: 2 CLP Hazard Class
Changed: 4 August 2011

Section: 2 CLP Hazard statements
Changed: 4 August 2011

Section: 2 GHS Prevention statement(s)
Changed: 4 August 2011

Section: 2 Disposal
Changed: 29 July 2011

Section: 2 Extinguishing media.
Changed: 26 February 2011

Section: 2 Oral first aid.
Changed: 26 February 2011

Section: 2 Skin first aid.
Changed: 29 July 2011

Section: 2 Storage procedures.
Changed: 4 August 2011

Section: 4 Eyes first aid.
Changed: 29 July 2011

Section: 4 Inhalation first aid.
Changed: 4 August 2011

Section: 4 Oral first aid.
Changed: 29 July 2011

Section: 4 Skin first aid.
Changed: 29 July 2011

Section: 5 Extinguishing media.
Changed: 29 July 2011

Section: 5 Special firefighting procedures.
Changed: 29 July 2011

Section: 5 Unusual fire& explosion hazards.
Changed: 1 August 2011

Section: 6 Environmental precautions
Changed: 29 July 2011

Section: 6 Methods for clean-up, removal
Changed: 29 July 2011

Section: 6 Personal precaution
Changed: 29 July 2011

Section: 7 Handling procedures.
Changed: 29 July 2011

Section: 7 Storage procedures.
Changed: 4 August 2011

Section: 8 Eye protection.
Changed: 29 July 2011

Section: 8 Glove protection.
Changed: 29 July 2011

Section: 8 Ventilation procedures.
Changed: 29 July 2011

Section: 10 Conditions to avoid.
Changed: 29 July 2011

Section: 11 Dermal toxicity.
Changed: 29 July 2011

Section: 11 Eye irritation.
Changed: 29 July 2011

Section: 11 Inhalation toxicity.
Changed: 29 July 2011

Section: 11 Respiratory irritation.
Changed: 4 August 2011

Section: 11 Skin irritation.
Changed: 29 July 2011

Section: 15 EU EINECS.
Changed: 3 December 2010
As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.