1. MANUFACTURER INFORMATION

1) Product Name: Pulsarlube PL10 (Motor Bearing Grease)
2) Recommended use of the chemical and restrictions on use
   A. Product description: An electrochemical automatic single point lubricator
   B. Restrictions on use: Not available except the intended use of the product
3) Supplier's details

   Pulsarlube GmbH                        Telephone Number for Information:
   Silostrasse 31b,                        Tel.: +49 69 8700766 - 62 / - 63
   65929 Frankfurt am Main,               Fax : +49 69 8700766 - 69
   Germany                                sales.eu@pulsarlube.com

   Emergency telephone number : +49 69 8700766 - 62 / - 63

2. HAZARDS IDENTIFICATION

1) Hazard / Risk Classification
   Acute toxicity (oral): Category5
   Specific target organ toxicity(Single exposure): Category3(Respiratory tract irritation)

2) Label elements including precautionary statements

   ○ Pictogram

   ○ Signal word: Warning
   ○ Hazard/Risk Statement:
     H303 May harmful if swallowed.
     H335 May cause respiratory irritation.

   ○ Precautionary Statement
   <Prevention>
     P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
     P271 Use only outdoors or in a well-ventilated area.

   <Response>
     P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
     P312 Call a POISON CENTER or doctor/physician if you feel unwell.
<Storage>
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up

<Disposal>
P501 Dispose of contents/containers to ... in accordance with local/regional/national/international regulations (to be specified).

3) Other Hazard Risk which do not included in the classification criteria

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Other name</th>
<th>CAS No</th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residual oils (petroleum), Hydrotreated</td>
<td>Residual oils (petroleum), Hydrotreated</td>
<td>64742-57-0</td>
<td>35.0 ~ 45.0</td>
</tr>
<tr>
<td>2. Distillates (petroleum), Hydrotreated heavy paraffinic</td>
<td>Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>64742-54-7</td>
<td>25.0 ~ 35.0</td>
</tr>
<tr>
<td>3. Sulfonic acids, petroleum, barium salts</td>
<td>SULFONIC ACIDS, PETROLEUM, BARIUM SALTS</td>
<td>61790-48-5</td>
<td>1.0 ~ 5.0</td>
</tr>
<tr>
<td>4. Secret (S1)</td>
<td>Secret (S1)</td>
<td>Secret (S1)</td>
<td>Secret (S1)</td>
</tr>
</tbody>
</table>

# Ingredients 1,2 DMSO Extract (mineral oil only), IP-346: < 3 %wt

4. FIRST AID MEASURES

General advice
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

In case of skin contact
Wash skin with soap and copious amounts of water. Consult a physician.
Wash contaminated clothing thoroughly with water before removing it, or wear gloves
Remove contaminated clothing and shoe
Get medical attention if adverse health effects persist or are severe

If inhaled
Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

In case of eye contact
Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. If irritation persists, consult a physician.

If swallowed
DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use alcohol-resistant foam, dry chemical or carbon dioxide.
Avoid use of water jet for extinguishing.

Special hazards arising from the substance or mixture
no data available

Advice for firefighters
Wear self-contained breathing apparatus for fire-fighting if necessary.
Cool containers with water until well after fire is out.
Keep unauthorized personnel out.
Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
Keep containers cool with water spray.

Further information
None

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas.
Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
No action shall be taken involving any personal risk or without suitable training.

Environmental precautions
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Inform the relevant authorities if the product has caused environmental pollution.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container.
Dispose of via a licensed waste disposal contractor.

Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist and avoid formation of dust and aerosols.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Hygroscopic. air, light, and moisture sensitive. Store under inert gas.
Store in accordance with local regulations.

Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits
- ACGIH
- [Residual oils (petroleum), hydrotreated]: TWA 5 mg/m³, Inhalable particulate matter(Mineral oil, Pure, highly and...
severely refined)
- [Distillates (petroleum), hydrotreated heavy paraflinic]: TWA 5 mg/m3, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)

OSHA
- no data available

**Appropriate engineering controls**
Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Personal protective equipment**

**Respiratory protection**
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary

**Eye protection**
Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
<td>Paste, Beige</td>
</tr>
<tr>
<td>b) Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>c) Odour threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>no data available</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>no data available</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>no data available</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
<td>no data available</td>
</tr>
<tr>
<td>k) Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>l) Solubility</td>
<td>Insoluble</td>
</tr>
<tr>
<td>m) Vapor density</td>
<td>no data available</td>
</tr>
<tr>
<td>n) Relative density</td>
<td>0.87 @ 20°C</td>
</tr>
<tr>
<td>o) Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>p) Auto-ignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>r) Viscosity</td>
<td>no data available</td>
</tr>
<tr>
<td>s) Formula mass</td>
<td>no data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Chemical stability**
This material is stable under recommended storage and handling conditions.

**Possibility of hazardous reactions**
Hazardous Polymerization will not occur.

**Conditions to avoid**
Avoid contact with incompatible materials and condition.
Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surface.

**Incompatible materials**
no data available

**Hazardous decomposition products**
May emit flammable vapour if involved in fire.

11. **TOXICOLOGICAL INFORMATION**

**Information on the likely routes of exposure**
- **Respiratory tracts** :
  - May cause respiratory irritation.
- **Oral** :
  - May harmful if swallowed.
- **Eye-Skin** :
  - no data available

- **Acute toxic**
  * Oral - 2000mg/kg < ATEmix <= 5000mg/kg
  - [Residual oils (petroleum), hydrotreated] : LD50 >5000 mg/kg Rat (ECHA)
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : LD50 > 5000 mg/kg Rat (ECHA)
  * Dermal - ATE MIX : >5000mg/kg
  - [Residual oils (petroleum), hydrotreated] : LD50 >5000 mg/kg Rabbit (ECHA)
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : LD50 >5000 mg/kg Rabbit (ECHA)
  * Inhalation - ATE MIX : no data available
  - [Residual oils (petroleum), hydrotreated] : LC50 >5.53 mg/L/4hr (ECHA)
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : LC50 >5.53 mg/L 4 hr Rat (ECHA)
- **Skin corrosion/irritation**
  - no data available
- **Serious eye damage/irritation**
  - no data available
- **Respiratory sensitization**
  - no data available
- **Skin sensitization**
  - no data available
- **Carcinogenicity**
  * IARC
  - no data available
  * OSHA
  - no data available
  * ACGIH
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : A4
  - [Residual oils (petroleum), hydrotreated] : A4
  * NTP
  - no data available
  * EU CLP
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : Carc.1B
  [Residual oils (petroleum), hydrotreated] : Carc.1B
- **Germ cell mutagenicity**
  - no data available
12. ECOLOGICAL INFORMATION

Ecotoxicity
- Fish
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: LC50 5000 mg/L 96 hr Oncorhynchus mykiss (IUCLID)
  - [Sulfonic acids, petroleum, barium salts]: LC50 0.00000159 mg/L 96 hr (estimate)
  - [Secret]: Exceeded maximum Log Kow values

- Crustaceans
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: EC50 1000 mg/L 48 hr Daphnia magna (IUCLID)
  - [Sulfonic acids, petroleum, barium salts]: LC50 0.00000318 mg/L 48 hr (estimate)

- Algae
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: EC50 1000 mg/L 96 hr Scenedesmus subspicatus (IUCLID)
  - [Sulfonic acids, petroleum, barium salts]: EC50 0.00000335 mg/L 96 hr (estimate)

Persistence and degradability
- Persistence
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: log Kow = 3.9 ~ 6 (Estimate)
  - [Sulfonic acids, petroleum, barium salts]: log Kow 11.05 (Estimate)
  - [Secret]: log Kow 7.46 (estimate)

- Degradability
  - no data available

Bioaccumulative potential
- Bioaccumulative potential
  - [Secret]: BCF 1997 (Estimate)

Biodegradation
- [Distillates (petroleum), hydrotreated heavy paraffinic]: Biodegradability = 6 (%) 28 day (Aerobic, Domestic wastewater, does not decompose easily)

Mobility in soil
- [Secret]: Koc 13740 (Can be adsorbed in the soil)

Other adverse effects
- no data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labelled prior to recycling or disposal. Contact a licensed professional waste disposal service to dispose of this material.

Above all, Dispose of in accordance with all applicable federal, state and local regulations.

14. TRANSPORT INFORMATION
UN number
ADR/RID: - IMDG: - IATA: -

UN proper shipping name
ADR/RID: no data available
IMDG: no data available
IATA: no data available

Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -

Packaging group
ADR/RID: - IMDG: - IATA: -

Environmental hazards
ADR/RID: no IMDG Marine pollute: no IATA: no

Special precautions for user
- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- Air transport (IATA): Not subject to IATA regulations.
- EmS FIRE SCHEDULE: Not available
- EmS SPILLAGE SCHEDULE: Not available

15. REGULATORY INFORMATION

REGULATORY INFORMATION
○ POPs Management Law
- Not applicable
○ Information of EU Classification
  * Classification
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: Carc. Cat. 2; R45
  - [Residual oils (petroleum), hydrotreated]: Carc. Cat. 2; R45
  * Risk Phrases
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: R45
  - [Residual oils (petroleum), hydrotreated]: R45
  * Safety Phrase
  - [Distillates (petroleum), hydrotreated heavy paraffinic]: S53, S45
  - [Residual oils (petroleum), hydrotreated]: S53, S45
○ U.S. Federal regulations
  * OSHA PROCESS SAFETY (29CFR1910.119)
    - Not applicable
  * CERCLA Section 103 (40CFR302.4)
    - Not applicable
  * EPCRA Section 302 (40CFR355.30)
    - Not applicable
  * EPCRA Section 304 (40CFR355.40)
    - Not applicable
  * EPCRA Section 313 (40CFR372.65)
    - Not applicable
○ Rotterdam Convention listed ingredients
- Not applicable
○ Stockholm Convention listed ingredients
- Not applicable
○ Montreal Protocol listed ingredients
- Not applicable

16. OTHER INFORMATION
Further information

*Pulsarlube has prepared copyrighted Product Safety Datasheets to provide information on the different Pulsarlube automatic grease lubricator systems. As defined in above text Pulsarlube automatic grease lubricator are manufactured articles, which do not result in exposure to a hazardous chemical under normal conditions of use. The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, Pulsarlube USA, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.*