

Pulsarlube PL10

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

KLT Co., Ltd.	Telephone Number for Information:
34-12, Bangchon-ro 955beon-gil	Tel.: +82 (02) 2083-8488
Tanhyeon-myeon, Paju-si, Gyeonggi-do	Fax : +82 (02) 2083-8485
Republic of Korea	sales.asia@pulsarlube.com

Emergency telephone number +82 (02) 2083-8488

2. HAZARDS IDENTIFICATION

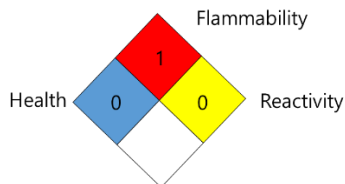
This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

- 1) Hazard / Risk Classification
 - Not applicable
 - (This material is not hazardous according to GHS regulatory guidelines)
- 2) Label elements including precautionary statements
 - Pictogram : Not applicable
 - Signal word : Not applicable
 - Hazard/Risk Statement :
 - H412 Harmful to aquatic organisms by long-term effects.
 - Precautionary Statement
 - <Prevention>
 - P273 Do not release to the environment.
 - <Response>
 - Not applicable
 - <Storage>
 - Not Applicable
 - <Disposal>
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulation

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

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.



3. COMPOSITION/INFORMATION ON INGREDIENTS

General information

This material is defined as a mixture.

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

Chemical name	CAS No	Content (%)	GHS Hazard Codes
1. 1H-IMIDAZOLE-1-ETHANOL, 2-(8-HEPTADECENYL)-4,5-DIHYDRO-	95-38-5	0.1 - < 0.25%	H302, H314(1C), H373, H400(M factor 10), H410(M factor 1)
2. AMINES, C12-14-ALKYL, ISOOCTYL PHOSPHATES	68187-67-7	1 - < 2.5%	H302, H312, H314(1C), H400(M factor 1), H410(M factor 1)

* 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).

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 contact areas with soap and water. 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..

If inhaled

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

In case of eye contact

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

If swallowed

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

5. FIRE FIGHTING MEASURES

Extinguishing media

Appropriate extinguishing media

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

Inappropriate Extinguishing Media

Straight Streams of water

Special hazards arising from the substance or mixture

Idehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulfur oxides

Advice for firefighters

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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.

Environmental precautions

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

PROTECTIVE MEASURES

Avoid contact with spilled 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.

7. HANDLING AND STORAGE

Precautions for safe handling

For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the application area.

In case of insufficient ventilation, wear suitable respiratory equipment.

Avoid contact with skin, eyes and clothing.

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Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.

Conditions for safe storage, including any incompatibilities

Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sun-light.
Do not store in open or unlabelled containers.

Specific end uses

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

NOTE: Limits/standards shown for guidance only. Follow applicable regulations. No biological limits allocated.

Control parameters

Exposure limits

Contains no substances with occupational exposure limit values.

Appropriate 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 protective equipment

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.

Eye protection

If contact is likely, safety glasses with side shields are recommended

Hands 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:
No protection is ordinarily required under normal conditions of use

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:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

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9. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance	solid, Blue
b) Odour	Characteristic
c) Odour threshold	N/D
d) pH	no data available
e) Melting point/freezing point	>250°C (482°F) / ND
f) Initial boiling point and boiling range	> 330°C (626°F)
g) Flash point	>204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
h) Evaporation rate	no data available
i) Flammability (solid, gas)	N/A
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	< 0.013 kPa (0.1 mm Hg) at 20 °C
l) Solubility	Negligible
m) Vapor density	N/D
n) Relative density	0.884 @ 15°C
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	N/D
q) Decomposition temperature	N/D
r) Viscosity	95 cSt (95 mm ² /sec) at 40 °C
s) Formula mass	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Material is stable under normal conditions.

Possibility of hazardous reactions

Hazardous Polymerization will not occur.

Conditions to avoid

Excessive heat. High energy sources of ignition.

Incompatible materials

Reactive with oxidising agents, acids, alkalis, acidic clay and reducing agents.

Hazardous decomposition products

Material does not decompose at ambient temperatures.

11. TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure

- Respiratory tracts : no data available
- Oral : no data available
- Eye-Skin : no data available

Acute toxic

- * Oral - no data available
- * Dermal - no data available

Skin corrosion/irritation

- Negligible irritation to skin at ambient temperatures. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404

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- Serious eye damage/irritation
 - May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 437 492
- Respiratory sensitization
 - no data available
- Skin sensitization
 - no data available
- Carcinogenicity
 - Based on available data, the classification criteria are not met.
 - * IARC
 - no data available
 - * ACGIH
 - no data available
 - * NTP
 - no data available
 - * EU CLP
 - no data available
- Germ cell mutagenicity
 - no data available
- Reproductive toxicity
 - no data available
- STOT-single exposure
 - no data available
- STOT-repeated exposure
 - no data available
- Aspiration hazard
 - Not expected to be an aspiration hazard. Based on physicochemical properties of the material
- Toxicity for substances
 - Name : 1HIMIDAZOLE-1ETHANL, 2-(8-HEPTADECENYL)-4,5DIHYDRO-
 - Acute toxicity : Oral lethality : LD50 1265 mg/kg (Rat)

12. ECOLOGICAL INFORMATION

Ecotoxicity : Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment..

- Fish
- Crustaceans
- Algae

Persistence and degradability

Biodegradation: Base oil component -- Expected to be inherently biodegradable

- Persistence
 - no data available
- Degradability
 - no data available

Bioaccumulative potential

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

- Bioaccumulative potential
 - no data available
- Biodegradation
 - no data available

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Mobility in soil

- 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.

Other adverse effects

- no data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

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.

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
 - * Safety Phrase
- U.S. Federal regulations
 - * OSHA PROCESS SAFETY (29CFR1910.119)
 - Not applicable
 - * CERCLA Section 103 (40CFR302.4)
 - Not applicable

* EPCRA Section 302 (40CFR355.30)

- No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

* EPCRA Section 304 (40CFR355.40)

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- Not applicable
- * EPCRA Section 313 (40CFR372.65)
- This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program..
- Rotterdam Convention listed ingredients
 - Not applicable
- Stockholm Convention listed ingredients
 - Not applicable
- Montreal Protocol listed ingredients
 - Not applicable

The following ingredients are cited on the lists below:

Chemical name : DIPHENYLAMINE
 CAS Number : 122-39-4
 List Citations : 18

16. OTHER INFORMATION

1) Source of the data

- (1) Chemical manufacturer's information : SDS(SAFETY DATA SHEET) Data
- (2) Chem Guide CAS DataBase
- (3) Corporate Solution From Thomson Micromedex(<http://csi.micromedex.com>)
- (4) ECB-ESIS(European chemical Substances Information System)(<http://ecb.jrc.it/esis>)
- (5) ECOTOX Database, EPA(<http://cfpub.epa.gov/ecotox>)
- (6) IUCLID Chemical Data Sheet, EC-ECB
- (7) International Chemical Safety Cards(ICSC)(<http://www.nihs.go.jp/ICSC>)
- (8) TOXNET, U.S. National Library of Medicine(<http://toxnet.nlm.nih.gov>)
- (9) The Chemical Database, The Department of Chemistry at the University of Akron
 (<http://ull.chemistry.uakron.edu/erd>)
- (10) Korea Information System for Chemical Safety, KISChem (<http://kischem.nier.go.kr>)
- (11) Chemical information system (<http://ncis.nier.go.kr>)
- (12) Grease Raw material manufacturer's information : PSDS(PRODUCT SAFETY DATA SHEET) Data

2) The first creation date : 2020.03.09

3) The number of times, and the final revision date : Revision times 02

The final revision date : 2021.12.29

Further information

Pulsarlube has prepared copyrighted Product Safety Datasheets to provide information on the different Pulsarlube automatic grease lubricator systems. As defined in above the 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 Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.