

# Pulsarlube PL3 (High Speed Grease)

## 1. MANUFACTURER INFORMATION

- 1) Product Name : : Pulsarlube PL3 (High Speed 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:
6-19, Hansan-ro, Tanhyeon-myeon,	Tel.: +82 (02) 2083-8488
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

- 1) Hazard / Risk Classification
  - Acute toxicity (oral) : Category5
  - Acute Toxicity (Inhalation: dust / mist) : Category4
  - Skin corrosion/irritation : Category3
  - Acute aquatic toxicity : Category3
- 2) Label elements including precautionary statements

○ Pictogram



- Signal word : Warning
- Hazard/Risk Statement :
  - H303 May harmful if swallowed.
  - H316 Cause mild skin irritation
  - H332 Harmful if inhaled
  - H402 Harmful to aquatic organisms
- Precautionary Statement
  - <Prevention>
    - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
    - P271 Use only outdoors or in a well-ventilated area.
    - P273 Avoid release to the environment.

## PSDS (Product Safety Data Sheet)

### <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.  
 P332+P313 If skin irritation occurs : Get medical advice/attention.

### <Storage>

Not Applicable

### <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

Chemical name	Other name	CAS No	Content (%)
1. DISTILLATES (PETROLEUM), SOLVENT-REFINED HEAVY NAPHTHENIC)	Naphthenic Base Lube Stock	64741-96-4	50.0 ~ 60.0
2. Distillates (petroleum), Hydrotreated heavy paraffinic)	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	25.0 ~ 35.0
3. Lithium hydroxystearate	12-Hydroxyoctadecanoic acid, monolithium salt	7620-77-1	5.0 ~ 10.0
4. T-4)-Bis(0,0-bis(2-ethylhexyl)phosphorodithioato-S,S')zinc	Zinc 0,0-bis(2-ethylhexyl)phosphorodithioate	4259-15-8	1.0 ~ 5.0
5. Sulfurized bis (dibutylcarbomodithioato)di-μ-oxodioxodimolybdenum)	-	68412-26-0	1.0 ~ 5.0
6. Secret (S1)	Secret (S1)	Secret (S1)	Secret (S1)

# 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.

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### 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

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### Specific end uses

no data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure limits

ACGIH

- [Distillates (petroleum), hydrotreated heavy paraffinic]: TWA 5 mg/m<sup>3</sup>, Inhalable particulate matter (Mineral oil, Pure, highly and severely refined)
- [Distillates, petroleum, solvent-refined heavy naphthenic] : TWA 5 mg/m<sup>3</sup>, Inhalable particulate matter (Mineral oil, Pure, highly and severely refined)
- [Secret] : TWA 5 mg/m<sup>3</sup>, Inhalable particulate matter (Mineral oil, Pure, highly and severely refined)

OSHA

- [Sulfurized bis(dibutylcarbamodithioato)di- $\mu$ -oxodioxodimolybdenum]: 5 mg/m<sup>3</sup> (Soluble compounds), 15 mg/m<sup>3</sup> (Insoluble compounds - Total dust)

### 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

a) Appearance	Paste, Yellow Brown
b) Odour	Characteristic
c) Odour threshold	no data available
d) pH	no data available
e) Melting point/freezing point	no data available
f) Initial boiling point and boiling range	no data available
g) Flash point	> 230°C (Reference ;COC, Base oil)
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	no data available
l) Solubility	Insoluble
m) Vapor density	no data available
n) Relative density	0.85 ~ 0.95 @ 20 °C
o) Partition coefficient: n-octanol/water	no data available

## PSDS (Product Safety Data Sheet)

- |                              |                   |
|------------------------------|-------------------|
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity                 | no data available |
| s) Formula mass              | no data available |

## 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 : no data available
- Oral : no data available
  - May harmful if swallowed.
- Eye-Skin : no data available
  - Cause mild skin irritation.
- Acute toxic
  - \* Oral - 2000mg/kg < ATEmix <= 5000mg/kg
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : LD50 > 5000 mg/kg Rat (ECHA)
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : LD50 > 5000 mg/kg Rat (IUCLID)
    - [Phosphorodithioic acid O,O-bis(2-ethylhexyl) ester, zinc salt] : LD50 3100 mg/kg Rat
    - [Secret] : LD50 > 18000 mg/kg Rat
    - [Secret] : LD50 3000 mg/kg Rat
    - [Secret] : LD50 > 5000 mg/kg Rat (ECHA)
  - \* Dermal - ATE MIX : >5000mg/kg
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : LD50 >5000 mg/kg Rabbit (ECHA)
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : LD50 > 2000 mg/kg Rabbit (IUCLID)
    - [Phosphorodithioic acid O,O-bis(2-ethylhexyl) ester, zinc salt] : LD50 > 5000 mg/kg Rabbit
    - [Secret] : LD50 >5000 mg/kg Rabbit (ECHA)
  - \* Inhalation - ATE MIX : no data available
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : LC50 >5.53 mg/l 4 hr Rat (ECHA)
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : Mist LC50 2.18 mg/l 4 hr Rat (IUCLID)
    - [Secret] : LC50 >5.53 mg/l 4 hr Rat (ECHA)
- Skin corrosion/irritation
  - Causes mild skin irritation
- Serious eye damage/irritation
  - no data available
- Respiratory sensitization

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- no data available
- Skin sensitization
  - no data available
- Carcinogenicity
  - \* IARC
    - no data available
  - \* OSHA
    - no data available
  - \* ACGIH
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : A4
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : A4
    - [Secret] : A4
  - \* NTP
    - no data available
  - \* EU CLP
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : Carc.1B
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : Carc.1B
    - [Secret] : Carc.1B
- 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
  - no data available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

- Fish
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : LC50 5000 mg/l 96 hr Oncorhynchus mykiss (IUCLID)
  - [Distillates, petroleum, solvent-refined heavy naphthenic] : LC50 5000 mg/l 96 hr Oncorhynchus mykiss (IUCLID)
  - [Phosphorodithioic acid O,O-bis(2-ethylhexyl) ester, zinc salt] : LC50 1 mg/l 96 hr Pimephales promelas (IUCLID)
  - [Secret] : LC50 0.00000153 mg/l 96 hr (Estimate)
  - [Secret] : LC50 0.000000000546 mg/l 96 hr (Even accepting the 1mg / L is less than the test material is difficult to dissolve the medium is not classified. (Solubility : 0.00000000000000002551mg/L)Water Solubility at 25 deg C (mg/L):0.00000000000000002551) (Estimate)
  - [Secret] : LC50 0.00000159 mg/L 96hr (estimate)
  - [Secret] : LC50 0.000103 mg/l 96 hr (Estimate)
  - [Secret] : LC50 5000 mg/l 96 hr Oncorhynchus mykiss (IUCLID)
- Crustaceans
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : EC50 1000 mg/l 48 hr Daphnia magna (IUCLID)
  - [Distillates, petroleum, solvent-refined heavy naphthenic] : EC50 1000 mg/l 48 hr Daphnia magna (IUCLID)
  - [Phosphorodithioic acid O,O-bis(2-ethylhexyl) ester, zinc salt] : EC50 1 mg/l 48 hr Daphnia magna(OECD TG 202(GLP)) (IUCLID)
  - [Secret] : EC50 0.00000361 mg/l 48 hr (Estimate)
  - [Secret] : EC50 0.0000000000000000297 mg/l 48 hr (Even accepting the 1mg / L is less than the test material is difficult to dissolve the medium is not classified. (Solubility : 0.00000000000000002551mg/L)Water Solubility at 25 deg C (mg/L):0.00000000000000002551) (Estimate)
  - [Secret] : LC50 0.00000318 mg/L 48hr (estimate)
  - [Secret] : LC50 0.00018 mg/l 48 hr (Estimate)
  - [Secret] : EC50 1000 mg/l 48 hr Daphnia magna (IUCLID)



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- Algae
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : EC50 1000 mg/ℓ 96 hr Scenedesmus subspicatus (IUCLID)
  - [Phosphorodithioic acid O,O-bis(2-ethylhexyl) ester, zinc salt] : EC50 1 mg/ℓ 96 hr Selenastrum capricornutum(OECD TG 201(GLP)) (IUCLID)
  - [Secret] : EC50 0.000114 mg/ℓ 96 hr (Estimate)
  - [Secret] : EC50 0.00000335 mg/L 96hr (estimate)
  - [Secret] : EC50 0.000168 mg/ℓ 96 hr (Estimate)

### Persistence and degradability

- Persistence
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : log Kow = 3.9 ~ 6 (Estimate)
  - [Distillates, petroleum, solvent-refined heavy naphthenic] : log Kow 3.9 ~ 6 (IUCLID)
  - [12-Hydroxyoctadecanoic acid monolithium salt] : log Kow 2.60 (Estimate)
  - [Phosphorodithioic acid O,O-bis(2-ethylhexyl) ester, zinc salt] : log Kow 2.86 (IUCLID)
  - [Secret] : log Kow 11.67 (Estimate)
  - [Secret] : log Kow 23.29 (Estimate)
  - [Secret] : log Kow 11.05 (Estimate)
  - [Secret] : log Kow 3.9 ~ 6 (Estimate)
  - [Secret] : log Kow 7.48 (Estimate)
- Degradability
  - no data available

### Bioaccumulative potential

- Bioaccumulative potential
  - [12-Hydroxyoctadecanoic acid monolithium salt] : BCF 56.23 (Estimate)
  - [Secret] : BCF 17.39 (Estimate)
  - [Secret] : BCF 3.69 (Estimate)
  - [Secret] : BCF 1953 (Estimate)
- Biodegradation
  - [Distillates (petroleum), hydrotreated heavy paraffinic] : Biodegradability = 6 (%) 28 day(Aerobic, Domestic wastewater, does not decompose easily)
  - [Distillates, petroleum, solvent-refined heavy naphthenic] : 6 (%) 28 day(Aerobic, Domestic wastewater, does not decompose easily)
  - [Secret] : 6 (%) 28 day (Aerobic, Domestic wastewater, does not decompose easily)

### Mobility in soil

- [Secret] : Koc 68110 (Estimates)

### 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

## PSDS (Product Safety Data Sheet)

### 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
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : Carc. Cat. 2; R45
    - [Secret] : Carc. Cat. 2; R45
  - \* Risk Phrases
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : R45
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : R45
    - [Secret] : R45
  - \* Safety Phrase
    - [Distillates (petroleum), hydrotreated heavy paraffinic] : S53, S45
    - [Distillates, petroleum, solvent-refined heavy naphthenic] : S53, S45
    - [Secret] : 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

### 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>)



**PSDS (Product Safety Data Sheet)**

- (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:// http://kischem.nier.go.kr](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 : 2015.02.11
- 3) The number of times, and the final revision date : Revision times 03  
The final revision date : 2017.06.12

**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 USA, Inc. MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.*