

Pulsarlube PL5 (High Temperature Grease)

1. MANUFACTURER INFORMATION

- 1) Product Name : Pulsarlube PL5 (High Temperature 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 USA, Inc.	Telephone Number for Information:
1480 Howard Street,	Tel.: +1 (847) 593-5300
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IL 60007, USA	info@pulsarlube.com

Emergency telephone number +1 (847) 593-5300 (Monday – Friday, 08:30 am ~ 05:30 pm)

2. HAZARDS IDENTIFICATION

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

Contains: NAPHTHENIC ACIDS, ZINC SALTS, BENZOTRIAZOLE DERIVATIVE May produce an allergic reaction.

Other hazard information:

Physical / Chemical Hazards: No significant hazards.

Health Hazards: High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards: Expected to be harmful to aquatic organisms.

NOTE: 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.

PSDS (Product Safety Data Sheet)
3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is defined as a mixture.

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

Name	CAS#	Concentration*	GHS Hazard Codes
1H-BENZOTRIAZOLE-1-METHANAMINE, N,N-BIS(2-ETHYLHEXYL)-METHYL-	94270-86-7	0.1 - < 1%	H315, H317, H400(M factor 1), H411
BENZENAMINE, N-PHENYL-, REACTION PRODUCTS WITH 2,4,4-TRIMETHYLPENTENE	68411-46-1	1 - < 5%	H402, H412
HEXANEDIOIC ACID, DILITHIUM SALT	18621-94-8	1 - < 5%	H302, H402
LITHIUM HYDROXIDE	1310-65-2	0.1 - < 1%	H302, H314(1B)
NAPHTHENIC ACIDS, ZINC SALTS	12001-85-3	0.1 - < 1%	H317, H319(2A), H401, H411
ZINC DIALKYL DITHIOPHOSPHATE	68457-79-4	1 - < 2.5%	H315, H318, H401, H411

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Other ingredients determined not to be hazardous up to 100%.

4. FIRST AID MEASURES

Inhalation	: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
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.
Eye Contact	: Flush thoroughly with water. If irritation occurs, get medical assistance.
Ingestion	: First aid is normally not required. Seek medical attention if discomfort occurs.
Note To Physician	: None

5. FIRE FIGHTING MEASURES
EXTINGUISHING MEDIA

Appropriate Extinguishing Media	: Use water fog, foam, dry chemical or carbon dioxide (CO2) to Extinguish flames.
Inappropriate Extinguishing Media	: Straight streams of water

FIRE FIGHTING

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.
Hazardous Combustion Products	: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

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FLAMMABILITY PROPERTIES

Flash Point [Method]	: >204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
Flammable Limits (Approximate volume % in air)	: LEL: 0.9 / UEL: 7.0
Autoignition Temperature	: N/D

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

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.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Scrape up spilled material with shovels into a suitable container for recycle or disposal.

Water Spill: Stop leak if you can do so 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.

ENVIRONMENTAL PRECAUTIONS

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

7. HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers. Keep away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			Note	Source
LITHIUM HYDROXIDE		Ceiling	1 mg/m3		N/A	OARS WEEL

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits : No biological limits allocated.

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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 PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

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/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand 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:

Nitrile, Viton

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and 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.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

a) Physical State	Solid
b) Form	Semi-fluid
c) Colour	Red
d) Odour	Characteristic
e) Odour Threshold	N/D

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IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

f) Relative Density (at 15 °C)	0.9
g) Flammability (Solid, Gas)	N/A
h) Flash Point [Method]	>204°C (399°F) [EST. FOR OIL, ASTM D-92 (COC)]
i) Flammable Limits (Approximate volume % in air)	LEL: 0.9 / UEL: 7.0
j) Autoignition Temperature	N/D
k) Boiling Point / Range	> 316°C (600°F) [Estimated]
l) Decomposition Temperature	N/D
m) Vapor Density (Air = 1)	N/D
n) Vapor Pressure	< 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]
o) Evaporation Rate (n-butyl acetate = 1)	N/D
p) pH	N/A
q) Log Pow (n-Octanol/Water Partition Coefficient)	> 3.5 [Estimated]
r) Solubility in Water	Negligible
s) Viscosity	220 cSt (220 mm ² /sec) at 40 °C
t) Oxidizing Properties	See Hazards Identification Section.

OTHER INFORMATION

u) Freezing Point	N/D
v) Melting Point	N/D

NOTE: Most physical properties above are for the oil component in the material.

10. STABILITY AND REACTIVITY

STABILITY	: Material is stable under normal conditions.
CONDITIONS TO AVOID	: Excessive heat. High energy sources of ignition.
INCOMPATIBLE MATERIALS	: Strong oxidisers
HAZARDOUS DECOMPOSITION PRODUCTS	: Material does not decompose at ambient temperatures.
POSSIBILITY OF HAZARDOUS REACTIONS	: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION
INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.

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Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

TOXICITY FOR SUBSTANCES

NAME	ACUTE TOXICITY
HEXANEDIOIC ACID, DILITHIUM SALT	Oral Lethality: LD 50 1098 mg/kg (Rat)

OTHER INFORMATION
For the product itself:

Component concentrations in this formulation would not be expected to cause skin sensitization, based on tests of the components, this formulation, or similar formulations.

Contains:

Synthetic base oils: Not expected to cause significant health effects under conditions of normal use, based on laboratory studies with the same or similar materials. Not mutagenic or genotoxic. Not sensitising in test animals and humans.

IARC Classification:

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3 = IARC 2B

12. ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms.

MOBILITY

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.

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13. DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

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.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations.

DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

14. TRANSPORT INFORMATION

LAND (ADG)	: Not Regulated for Land Transport
SEA (IMDG)	: Not Regulated for Sea Transport according to IMDG-Code
Marine Pollutant:	: No
AIR (IATA)	: Not Regulated for Air Transport

15. REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories :

AIIC, IECSC, ISHL, KECI, TCSI, TSCA

Special Cases:

Inventory	Status
ENCS	Restrictions Apply
NDSL	Restrictions Apply
PICCS	Restrictions Apply

16. OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H302: Harmful if swallowed; Acute Tox Oral, Cat 4

H303: May be harmful if swallowed; Acute Tox Oral, Cat 5

H314(1B): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1B

H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

H316: Causes mild skin irritation; Skin Corr/Irritation, Cat 3

H317: May cause allergic skin reaction; Skin Sensitization, Cat 1

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H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1
H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A
H400: Very toxic to aquatic life; Acute Env Tox, Cat 1
H401: Toxic to aquatic life; Acute Env Tox, Cat 2
H402: Harmful to aquatic life; Acute Env Tox, Cat 3
H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2
H412: Harmful to aquatic life with long lasting effects; Chronic Env Tox, Cat 3

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Composition: Component Table information was modified.
Section 11 Substance Toxicology table information was modified.
Section 15: Special Cases Table information was modified.
Section 16: HCode Key information was modified.

2) The first creation date : 11.02.2015

3) The number of times, and the final revision date : Revision times 04
The final revision date : 31.05.2024

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.