

# Pulsarlube PL2 (Heavy Duty Grease)

## 1. MANUFACTURER INFORMATION

- 1) Product Name : Pulsarlube PL2 (Heavy duty 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 (2) 2135-3788
Tanhyeon-myeon, Paju-si, Gyeonggi-do	Fax : +82 (2) 2083-8485
Republic of Korea	sales.asia@pulsarlube.com

Emergency telephone number +82 (2) 2135-3788

## 2. HAZARD(S) IDENTIFICATION

### 1) Classification of the substance or mixture

#### GHS US classification

Carcinogenicity, Category 2                      H351    Suspected of causing cancer.  
Full text of H-statements: see section 16

### 2) GHS Label elements, including precautionary statements

#### GHS US labelling

- Hazard pictograms (GHS US) :



- Signal word (GHS US) : Warning
- Hazard statements (GHS US) : H351 - Suspected of causing cancer.
- Precautionary statements (GHS US)
  - P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
  - P308+P313 - If exposed or concerned: Get medical advice/attention.
  - P405 - Store locked up.
  - P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

**3) Other hazards which do not result in classification**

No additional information available

**4) Unknown acute toxicity (GHS US)**

No additional information available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**
**1) Substances**

Not applicable

**2) Mixtures**

Name	Product identifier	%	GHS US classification
Asphalt	CAS-No. : 8052-42-4	0.1 - 5	Carc. 2, H351 STOT RE 2, H373
Graphite	CAS-No. : 7782-42-5	0.1 - 5	Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

**4. FIRST AID MEASURES**
**1) Description of first aid measures**

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

**2) Most important symptoms and effects (acute and delayed)**

No additional information available

**3) Immediate medical attention and special treatment, if necessary**

Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**
**1) Suitable (and unsuitable) extinguishing media**

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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**2) Specific hazards arising from the chemical**

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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**3) Special protective equipment and precautions for fire-fighters**

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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**6. Accidental release measures**
**1) Personal precautions, protective equipment and emergency procedures**
**For non-emergency personnel**

Emergency procedures	: Ventilate spillage area.
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**For emergency responders**

# PSDS (Product Safety Data Sheet)

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

## 2) Environmental precautions

Avoid release to the environment.

## 3) Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

## 4) Reference to other sections

For further information refer to section 13.

## 7. HANDLING AND STORAGE

### 1) Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 2) Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 1) Control parameters

<b>PL2</b>	
No additional information available	
<b>Asphalt (8052-42-4)</b>	
<b>USA – ACGIH – Occupational Exposure Limits</b>	
Local name	Asphalt (Bitumen) fumes, as benzene-soluble aerosol
ACGIH OEL TWA	0.5 mg/m <sup>3</sup> (I – Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP
ACGIH chemical category	Not Classifiable as a Human Carcinogen fume, coal tar-free
Regulatory reference	ACGIH 2022
<b>USA – ACGIH – Biological Exposure Indices</b>	
BEI	2.5 µg/l Parameter: 1-Hydroxypyrene with hydrolysis – Medium: urine – Sampling time: end of shift at end of workweek (background) Parameter: 3-Hydroxybenzo(a)pyrene with hydrolysis – Medium: urine – Sampling time: end of shift at end of workweek (nonquantitative)
<b>USA – NIOSH – Occupational Exposure Limits</b>	
NIOSH REL C	5 mg/m <sup>3</sup> (fume)
<b>Graphite (7782-42-5)</b>	
<b>USA – ACGIH – Occupational Exposure Limits</b>	
Local name	Graphite (all forms excepte graphite fibers)
ACGIH OEL TWA	2 mg/m <sup>3</sup> (R – Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022
<b>USA – OSHA – Occupational Exposure Limits</b>	
Local name	Graphite (Natural)
OSHA PEL TWA [1]	15 mg/m <sup>3</sup> (synthetic-total dust)

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	5 mg/m <sup>3</sup> (synthetic-respirable fraction)
OSHA PEL TWA [2]	15 mppcf
Remark (OSHA)	Table Z-3. CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
<b>USA – IDLH – Occupational Exposure Limits</b>	
IDLH	1250 mg/m <sup>3</sup> (Graphite (natural))
<b>USA – NIOSH – Occupational Exposure Limits</b>	
NIOSH REL TWA	2.5 mg/m <sup>3</sup> (natural-respirable dust)

## 2) Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

## 3) Individual protection measures/Personal protective equipment

### Hand protection

Protective gloves

### Eye protection

Safety glasses

### Skin and body protection

Wear suitable protective clothing

### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment

### Personal protective equipment symbol(s)



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 1) Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Paste.
Colour	: Black
Odour	: Characteristic
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: Ca. 0.9 @ 20°C
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available

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Explosive limits : Not applicable  
 Explosive properties : No data available  
 Oxidising properties : No data available

## 2) Other information

No additional information available

## 10. STABILITY AND REACTIVITY

### 1) Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 2) Chemical stability

Stable under normal conditions.

### 3) Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 4) Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 5) Incompatible materials

No additional information available

### 6) Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. TOXICOLOGICAL INFORMATION

### 1) Information on toxicological effects

Acute toxicity (oral) : Not classified  
 Acute toxicity (dermal) : Not classified  
 Acute toxicity (inhalation) : Not classified

Graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity – Acute Toxic Class Method)
LC50 Inhalation – Rat	> 2 mg/l air Animal: rat, Animal sex: male, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
LC50 Inhalation – Rat (Dust/Mist)	> 2000 mg/l Source: ECHA

Skin corrosion/irritation : Not classified

Graphite (7782-42-5)	
pH	7 (1.3 %)

Serious eye damage/irritation : Not classified

Graphite (7782-42-5)	
pH	7 (1.3 %)

Respiratory or skin sensitisation : Not classified  
 Germ cell mutagenicity : Not classified  
 Carcinogenicity : Suspected of causing cancer.

Asphalt (8052-42-4)	
NOAEL (chronic, oral, animal/female, 2 years)	< mg/kg bodyweight
IARC group	2B – Possibly carcinogenic to humans
In OSHA Hazard Communication	Yes

Carcinogen list	
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Reproductive toxicity : Not classified  
 STOT-single exposure : Not classified  
 STOT-repeated exposure : Not classified

<b>Asphalt (8052-42-4)</b>	
LOAEC (inhalation, rat,dust/mist/fume, 90 days)	0.0207 mg/l air Animal: rat, Guideline: other:OECD 451
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified  
 Viscosity, kinematic : Not applicable

## 12. ECOLOGICAL INFORMATION

### 1) Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

<b>Graphite (7782-42-5)</b>	
LC50 – Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 – Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h – Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	100 mg/l Source: ECHA

### 2) Persistence and degradability

<b>Asphalt (8052-42-4)</b>	
Persistence and degradability	Not readily biodegradable in water.
<b>Graphite (7782-42-5)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 3) Bioaccumulative potential

<b>Asphalt (8052-42-4)</b>	
BCF – Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	> 6
Bioaccumulative potential	No bioaccumulation data available.
<b>Graphite (7782-42-5)</b>	
Bioaccumulative potential	Not bioaccumulative.

### 4) Mobility in soil

<b>Asphalt (8052-42-4)</b>	
Ecology – soil	No (test)data on mobility of the substance available.

### 5) Other adverse effects

No additional information available

**13. DISPOSAL CONSIDERATIONS**

**1) Disposal methods**

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

**14. TRANSPORT INFORMATION**

In accordance with DOT / TDG / IMDG / IATA

**1) UN number**

Not regulated for transport

**2) UN proper shipping name**

Proper Shipping Name (DOT) : Not applicable  
 Proper Shipping Name (TDG) : Not applicable  
 Proper Shipping Name (IMDG) : Not applicable  
 Proper Shipping Name (IATA) : Not applicable

**3) Transport hazard class(es)**

Transport hazard class(es) (DOT) : Not applicable  
 Transport hazard class(es) (TDG) : Not applicable  
 Transport hazard class(es) (IMDG) : Not applicable  
 Transport hazard class(es) (IATA) : Not applicable

**4) Packing group**

Packing group (DOT) : Not applicable  
 Packing group (TDG) : Not applicable  
 Packing group (IMDG) : Not applicable  
 Packing group (IATA) : Not applicable

**5) Environmental hazards**

Other information : No supplementary information available.

**6) Special precautions for user**

DOT : No data available  
 TDG : No data available  
 IMDG : No data available  
 IATA : No data available

**7) Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**15. REGULATORY INFORMATION**

**1) US Federal regulations**

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Asphalt	8052-42-4	Present	Active	
Graphite	7782-42-5	Present	Active	

**2) International regulations**

**CANADA**

<b>Asphalt (8052-42-4)</b>
Listed on the Canadian DSL (Domestic Substances List)

**Graphite (7782-42-5)**

Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

No additional information available

**National regulations**
**Asphalt (8052-42-4)**

Listed on IARC (International Agency for Research on Cancer)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

**Graphite (7782-42-5)**

Listed on INSQ (Mexican National Inventory of Chemical Substances)

**3) US State regulations**

No additional information available

**16. OTHER INFORMATION**
**according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations**

Data sources : ECHA (European Chemicals Agency). This MSDS is prepared based on KOSHA, NITE, ESIS, NLM, SIDS, IPCS, NCIS, etc.

**Full text of H-statements :**

H351 : Suspected of causing cancer.  
 H373 : May cause damage to organs through prolonged or repeated exposure.  
 H402 : Harmful to aquatic life

2) The first creation date : 11.02.2015

3) The number of times, and the final revision date : Revision times 05

The final revision date : 09.01.2023

**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.*