

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

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2. Hazards identification

1) Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2) Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH210 - Safety data sheet available on request.

3) Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

3. Composition/information on ingredients

1) Substances

Not applicable

2) Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Graphite	CAS-No.: 7782-42-5 EC-No.: 231-955-3	0.1 - 5	Aquatic Chronic 3, H412

Full text of H- and EUH-statements: see section 16

4. First aid measures
1) Description of first aid measures

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, both acute and delayed

No additional information available

3) Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures
1) Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

2) Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

3) Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

6. Accidental release measures
1) Personal precautions, protective equipment and emergency procedures
For non-emergency personnel

Emergency procedures : Ventilate spillage area.

For emergency responders

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.
 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. 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 in a well-ventilated place. Keep cool.
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3) Specific end use(s)

No additional information available

8. Exposure controls/personal protection

1) Control parameters

National occupational exposure and biological limit values

Graphite (7782-42-5)	
Austria – Occupational Exposure Limits	
MAK (OEL TWA)	5 mg/m ³ (alveolar dust with <1% Quartz, respirable fraction)
MAK (OEL STEL)	10 mg/m ³ (alveolar dust with <1% Quartz, respirable fraction)
Belgium – Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (except fibers–alveolar fraction)
Bulgaria – Occupational Exposure Limits	
OEL TWA	5 mg/m ³ (inhalable fraction)
Croatia – Occupational Exposure Limits	
GVI (OEL TWA) [1]	4 mg/m ³ (respirable dust) 10 mg/m ³ (total dust, inhalable particles)
Czech Republic – Occupational Exposure Limits	
PEL (OEL TWA)	2 mg/m ³ (dust)
Denmark – Occupational Exposure Limits	
OEL TWA [1]	2.5 mg/m ³ (natural–respirable)
Estonia – Occupational Exposure Limits	
OEL TWA	5 mg/m ³ (total dust (Dusts))
Finland – Occupational Exposure Limits	
HTP (OEL TWA) [1]	2 mg/m ³
France – Occupational Exposure Limits	
VME (OEL TWA)	2 mg/m ³ (alveolar fraction)
Germany – Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	1.25 mg/m ³ (respirable fraction (dust)) 10 mg/m ³ (inhalable fraction (dust))
Greece – Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable fraction) 5 mg/m ³ (respirable fraction)
Hungary – Occupational Exposure Limits	
AK (OEL TWA)	5 mg/m ³ (respirable)
Ireland – Occupational Exposure Limits	
OEL TWA [1]	2 mg/m ³ (all forms except fibres; respirable fraction)
OEL STEL	6 mg/m ³ (calculated–all forms except fibres; respirable fraction)
Latvia – Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (Carbon dust)
Lithuania – Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³ (dust)
Poland – Occupational Exposure Limits	
NDS (OEL TWA)	4 mg/m ³ (natural–inhalable fraction)

PSDS (Product Safety Data Sheet)

according to Regulation (EC) No. 1907/2006 (REACH)
with its amendment Regulation (EU) 2015/830

Rev 04

	1 mg/m ³ (natural-respirable fraction)
Portugal – Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (all forms except Graphite fibers-respirable fraction)
Romania – Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (Quartz <=5%-dust, respirable fraction)
Spain – Occupational Exposure Limits	
Local name	Grafito
VLA-ED (OEL TWA) [1]	2 mg/m ³ polvo. Fracción respirable
Remark	d (Véase UNE EN 481: Atmósferas en los puestos de trabajo. Definición de las fracciones por el tamaño de las partículas para la medición de aerosoles).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
United Kingdom – Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m ³ (inhalable dust) 4 mg/m ³ (respirable dust)
WEL STEL (OEL STEL)	30 mg/m ³ (calculated-inhalable dust) 12 mg/m ³ (calculated-respirable dust)
Norway – Occupational Exposure Limits	
Grenseverdi (OEL TWA) [1]	5 mg/m ³ (natural-total dust) 2 mg/m ³ (natural-respirable dust) 10 mg/m ³ (synthetic-total dust) 4 mg/m ³ (synthetic-respirable dust)
Korttidsverdi (OEL STEL)	10 mg/m ³ (natural-total dust) 4 mg/m ³ (natural-respirable dust) 20 mg/m ³ (synthetic-total dust) 8 mg/m ³ (synthetic-respirable dust)
Switzerland – Occupational Exposure Limits	
MAK (OEL TWA) [1]	
USA – ACGIH – Occupational Exposure Limits	
Local name	Graphite (all forms excepte graphite fibers)
ACGIH OEL TWA	2 mg/m ³ (R – Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2022

Recommended monitoring procedures

No additional information available

Air contaminants formed

No additional information available

DNEL and PNEC

No additional information available

Control banding

No additional information available

2) Exposure controls

Appropriate engineering controls:

Appropriate engineering controls : Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment symbol(s):



Eye and face protection

Eye protection : Safety glasses

Skin protection

Skin and body protection : Wear suitable protective clothing

Hand protection : Protective gloves

Respiratory protection

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

Thermal hazards

No additional information available

Environmental exposure controls

Environmental exposure controls : Avoid release to the environment.

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
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 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
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

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 : Not classified
 Reproductive toxicity : Not classified
 STOT-single exposure : Not classified
 STOT-repeated exposure : Not classified
 Aspiration hazard : Not classified

PL2	
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.
 Hazardous to the aquatic environment, short-term (acute) : Not classified
 Hazardous to the aquatic environment, long-term (chronic) : Not classified

Not rapidly degradable

Graphite (7782-42-5)	
LC50 – Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)

PSDS (Product Safety Data Sheet)

according to Regulation (EC) No. 1907/2006 (REACH)
with its amendment Regulation (EU) 2015/830

Rev 04

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

Graphite (7782-42-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

3) Bioaccumulative potential

Graphite (7782-42-5)	
Bioaccumulative potential	Not bioaccumulative.

4) Mobility in soil

No additional information available

5) Results of PBT and vPvB assessment

Component	
Graphite (7782-42-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation ,annex XIII

6) Other adverse effects

No additional information available

13. Disposal considerations

1) Waste treatment methods

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

14. Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
1) UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
2) UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
3) Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
4) Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
5) Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

6) Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

7) Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

15. Regulatory information

1) Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

France

Occupational diseases	
Code	Description
RG 25	Diseases resulting from the inhalation of mineral dust containing crystalline silica (quartz, cristobalite, tridymite), crystalline silicates (kaolin, talc), graphite or coal.

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).

PSDS (Product Safety Data Sheet)

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Rev 04

Storage class (LGK, TRGS 510)
Joint storage table

: LGK 13 - Non-combustible solids.

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for
Joint storage with restrictions
permitted for

: LGK 1, LGK 6.2, LGK 7.
: LGK 4.1A, LGK 5.1C.

Joint storage permitted for

: LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13.

Hazardous Incident Ordinance
(12. BImSchV)

: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category

: Z(1) - non biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity /bioaccumulative potential/ toxicity or persistence)

SZW-lijst van kankerverwekkende stoffen

: None of the components are listed

SZW-lijst van mutagene stoffen

: None of the components are listed

SZW-lijst van reprotoxische stoffen

: None of the components are listed

– Borstvoeding

SZW-lijst van reprotoxische stoffen

: None of the components are listed

– Vruchtbaarheid

SZW-lijst van reprotoxische stoffen

: None of the components are listed

– Ontwikkeling

Denmark

Danish National Regulations

: Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

Switzerland

Storage class (LK)

: NG - Non-hazardous

2) Chemical safety assessment

No chemical safety assessment has been carried out

16. Other information

Abbreviations and acronyms :

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association

PSDS (Product Safety Data Sheet)

according to Regulation (EC) No. 1907/2006 (REACH)
with its amendment Regulation (EU) 2015/830

Rev 04

IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

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

Full text of H- and EUH-statements :

Aquatic Chronic 3 : Hazardous to the aquatic environment – Chronic Hazard, Category 3
 EUH210 : Safety data sheet available on request.
 H412 : Harmful to aquatic life with long lasting effects.

The classification complies with : ATP 12

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 : 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.