

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

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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 and/or 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]
Calcium carbonate	CAS-No.: 471-34-1 EC-No.: 207-439-9	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 general	: If you feel unwell, seek medical advice.
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.
First-aid measures for first aider	: First aid workers will be equipped with suitable personal protective equipment.

2) Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: None under normal conditions. Dust of the product, if present, may cause respiratory irritation after excessive inhalation exposure.
Symptoms/effects after skin contact	: None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact	: None under normal conditions. Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

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

Treat symptomatically.

5. FIRE FIGHTING MEASURES
1) Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam
Unsuitable extinguishing media	: Do not use a heavy water stream.

2) Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

3) Advice for firefighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
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".
Emergency procedures : Evacuate unnecessary personnel.

2) Environmental precautions

Avoid release to the environment

3) Methods and material for containment and cleaning up

For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.
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

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.
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

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Store in a well-ventilated place. Keep cool.
Packaging materials : Store always product in container of same material as original container.

Germany

Storage class (LGK, TRGS 510) : LGK 13 - Non-combustible solids
Joint storage table :

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 : LGK 1, LGK 6.2, LGK 7
Joint storage with restrictions permitted for : 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

Switzerland

Storage class (LK) : NG - Non-hazardous

3) Specific end use(s)

No additional information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
1) Control parameters
National occupational exposure and biological limit values

Calcium carbonate (471-34-1)	
Belgium - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	10 mg/m ³ (total dust, inhalable particles) 4 mg/m ³ (respirable dust)
France - Occupational Exposure Limits	
VME (OEL TWA)	10 mg/m ³
Latvia - Occupational Exposure Limits	
OEL TWA	6 mg/m ³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	10 mg/m ³ (inhalable fraction)
Portugal - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	10 mg/m ³ 4 mg/m ³
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	3 mg/m ³ (respirable dust)

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 : Wear recommended personal protective 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	: Beige.
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. 0.92 @ 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

Calcium carbonate (471-34-1)	
LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method), Guideline: EU Method B.1 bis (Acute Oral Toxicity - Fixed Dose Procedure)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity)
LC50 Inhalation - Rat (Dust/Mist)	> 3 mg/l Source: ECHA

Skin corrosion/irritation : Not classified

Calcium carbonate (471-34-1)	
pH	8 – 9 Source: HSDB

Serious eye damage/irritation : Not classified

Calcium carbonate (471-34-1)	
pH	8 – 9 Source: HSDB

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

Calcium carbonate (471-34-1)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	≥ 0.212 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : Not classified

PL5	
Viscosity, kinematic	Not applicable

Calcium carbonate (471-34-1)	
Viscosity, kinematic	Not applicable (solid)

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

Calcium carbonate (471-34-1)	
LC50 - Fish [1]	> 56000 mg/l Source: ECOTOX
EC50 72h - Algae [1]	> 14 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 96h - Algae [1]	22000 mg/l Source: Ecological Structure Activity Relationships

2) Persistence and degradability

PL5	
Persistence and degradability	Not rapidly degradable
Calcium carbonate (471-34-1)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

3) Bioaccumulative potential

Calcium carbonate (471-34-1)	
BCF - Fish [1]	(no bioaccumulation)
Bioaccumulative potential	Not bioaccumulative.

4) Mobility in soil

Calcium carbonate (471-34-1)	
Mobility in soil	4.971 Source: Quantitative Structure Activity Relation
Surface tension	No data available (test not performed)
Ecology - soil	Low potential for adsorption in soil.

5) Results of PBT and vPvB assessment

Component	
Calcium carbonate (471-34-1)	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

- Regional waste regulation** : Disposal must be done according to official regulations.
- Waste treatment methods** : Dispose of contents/container in accordance with licensed collector's sorting instructions
- Sewage disposal recommendations** : Disposal must be done according to official regulations
- Product/Packaging disposal recommendations** : Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
- Additional information** : Do not re-use empty containers.

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 (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

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

Germany
**VOC ordinance
(ChemVOCFarbV)**

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).

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

Netherlands

ABM category : B(4) - low hazard for aquatic organisms

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 – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Poland

Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
 Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
 The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
 Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923). Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154). Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
 The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
 Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended). Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
 ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

2) Chemical safety assessment

No chemical safety assessment has been carried out

16. OTHER INFORMATION

1) 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
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 disruptor
ACGIH	American Conference of Government Industrial Hygienists
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CSA	Chemical safety assessment
EWC	European waste catalogue
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
OSHA	Occupational Safety Health Administration
PPE	Personal protection equipment
TF	Technical function
TWA	Time Weighted Average
UFI	Unique Formula Identifier

Data sources

: This MSDS is prepared based on KOSHA, NITE, ESIS, NLM, SIDS, IPCS, NCIS, etc. This MSDS is prepared based on Article 41 of the Occupational Safety and Health Act and Notice No.2016-19 of the Ministry of Employment and Labor (based on the availability of material safety and health data), taking into account the status of regulations related to Korea. This safety data sheet was compiled with data and information from the following sources : RTECS, ECOSAR, HSDB,

SIDS SIAP, ChemWATCH, CESAR, Chemical DB. ECHA (European Chemicals Agency).

Full text of H- and EUH-statements:	
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
H412	Harmful to aquatic life with long lasting effects.
EUH210	Safety data sheet available on request.

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 06

The final revision date : Mar.27.2025

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.