

MATERIAL SAFETY DATA SHEET

S-OIL GREASE EP 3

Date of the previous version: -

Revision Date: 2025-02-28

Version 0

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name S-OIL GREASE EP 3
Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Lubrication Grease

1.3. Details of the supplier of the safety data sheet

Supplier S-OIL CORPORATION
192, Baekbeom-ro, Mapo-gu,
Seoul 04196, Korea

For further information, please contact:

Contact Point CALS Corp.
E-mail Address 123-63 Injusandan-ro, Inju-myeon, Asan-si, Chungcheongnam-Do, 31435, Korea
rnd@calscorps.com

1.4. Emergency telephone number

Korea + 82-2-70-7864-2061

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification

Not classified

2.2. Label elements

GHS label elements, including precautionary statements

Symbol(s) Not Classified

Signal Words Not Classified

2.3. GHS Hazard Statements

Not classified

2.4. GHS Precautionary Statements

Prevention Not Classified

Response Not Classified

Storage Not Classified

Disposal Not Classified

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2.5. Other hazards

Physical-Chemical Properties

By handling of mineral oil products and chemical products no particular hazard is known when normal precautions (section # 7) and personal protective equipment (section # 8) are kept.

Environmental properties

The product may not be released into the environment without control.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Mixture

Chemical Name	CAS-No	EC-No	Weight %
Hydrotreated (mild) heavy paraffinic distillate	64742-54-7	265-157-1	40.0 ~ 50.0
Residual oils (petroleum), hydrotreated	64742-57-0	265-160-8	20.0 ~ 30.0
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	265-155-0	10.0 ~ 20.0
Lithium Hydroxystearate	7620-77-1	231-536-5	8.0 ~ 15.0
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	272-028-3	< 1.0

Additional information

Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

4. FIRST AID MEASURES

4.1. Description of first-aid measures

General advice

Not data available.

Eye contact

If it gets on your eyes, wash it carefully with water for a few minutes.
If possible, remove contact lenses. Continue to wash.
If eye irritation persists get medical advice/attention.

Skin contact

If skin irritation occurs: Get medical advice/attention.
For hot substances, soak or flush affected area with large amounts of cold water to dissipate heat.
Remove contaminated clothing and shoes and isolate contaminated areas.
Rinse skin and eyes immediately with plenty of water for at least 20 minutes when in contact with the material.
Prevent spread of contamination on mild skin contact.

Inhalation

If exposed or concerned about exposure: Get medical advice/attention.
If exposed to excess dust or fume, remove it with clean air and take medical

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Ingestion	measures if you have cough or other symptoms. If exposed or concerned about exposure: Get medical advice/attention. If the substance is ingested or inhaled, do not perform mouth-to-mouth artificial respiration and use appropriate respiratory medical equipment.
Protection of First-aiders	In case of exposure, contact medical staff and take special emergency measures such as follow-up. Instruct medical personnel to be aware of the substance and to take protective measures.

4.2. Most important symptoms and effects, both acute and delayed

Eye contact	Not data available.
Skin contact	Not data available.
Inhalation	Not data available.
Ingestion	Not data available.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Not data available.
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5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this spread the fire.

5.2. Special hazards arising from the substance or mixture

Special Hazard	Vapors may travel to a source of ignition and ignite. Fire may produce irritating and/or toxic gases. Inhalation of material may be harmful. Some liquids produce vapors that may cause dizziness or suffocation.
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5.3. Advice for fire-fighters

Special protective equipment for fire-fighters	Use personal protective equipment as required.
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Other information	Evacuate area and fight fire from a safe distance. Move containers from fire area if you can do it without risk. Fire involving Tanks; Do not direct water at source of leak or safety devices; icing may occur. Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out. Fire involving Tanks; Always stay away from tanks engulfed in fire. Some may be transported hot. Contact may cause burns to skin and eyes. Fire involving Tanks; For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Fire involving Tanks; Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
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Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information	<p>Wipe off any spills immediately and follow all protective precautions. Isolate the contaminated area. Do not enter if you do not need to enter or are not equipped with protective equipment. Remove all ignition sources. Stop the leak if it is not dangerous. Do not touch a damaged container or spill without adequate protection. Cover with plastic sheet to prevent diffusion. Be aware of the materials and conditions to avoid.</p>
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6.2. Environmental precautions

General Information	Prevent entry into waterways, sewers, basements, and confined spaces.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Absorb the liquid and scrub the area with detergent and water.
Methods for cleaning up	Use control tools to collect spillage and place it into loosely covered plastic containers.

6.4. Reference to other sections

Personal Protective Equipment	See Section 8 for more detail.
Waste treatment	See section 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling	<p>Do not handle all safety precautions until you read and understand them. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Follow all MSDS / label precautions as product residues may remain after emptying containers. Please use care in handling / storage. Carefully open the stopper before opening. Avoid prolonged or repeated skin contact. Be aware of the materials and conditions to avoid.</p>
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Prevention of fire and explosion	Not data available
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Hygiene measures	Wash the handling area thoroughly after handling.
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7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	<p>Store locked up. Store in a well-ventilated place. Keep container tightly closed.</p>
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Keep container tightly closed in a well-ventilated place.
The empty drum should be completely drained, properly blocked and immediately returned to the drum regulator or properly positioned.

Materials to Avoid Strong oxidizing agents.

7.3. Specific end uses

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits Not data available

Legend Not data available

8.2. Exposure controls

Occupational Exposure Controls

Engineering Measures

Use engineering controls such as process enclosures, local exhaust ventilation or control of airborne levels below recommended exposure limits.
Facilities for storing or utilizing this material should be equipped with an eye wash facility and a safety shower.

Personal Protective Equipment

General Information

Adequate ventilation systems may be needed to control airborne contaminant concentrations above permissible threshold limits.
Setting up safety showers and face-washing facilities is recommended.

Respiratory protection

Avoid direct contact and wear an anti dust mask.

Eye Protection

Avoid direct contact and wear protective glasses.(safety goggles)

Skin and body protection

Avoid direct contact and wear suitable chemical resistant clothing.

Hand Protection

Avoid direct contact and wear safety gloves. (chemical-resistant gloves)

Environmental exposure controls

General Information

The product should not be allowed to enter drains, water courses or the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Color	Dark Brown
Physical State @20°C	Semi-solid
Odor	Slight odor

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH		Not data available	
Boiling point/boiling range		Not data available	
Flash point		Not applicable	
Evaporation rate		Not data available	
Flammability Limits in Air		Not data available	

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Vapor Pressure		Not data available
Vapor density		Not data available
Specific gravity	0.87	@ 15 /4°C
Water solubility		Not data available
Solubility in other solvents		Not data available
logPow		Not data available
Autoignition temperature		Not data available
Viscosity, kinematic		Not data available
		Not data available
Explosive properties		Not data available
Oxidizing Properties		Not data available
Possibility of hazardous reactions		Not data available

9.2. Other information

- Not data available

10. STABILITY AND REACTIVITY

10.1. Reactivity

General Information No specific reactivity hazards associated with this product..

10.2. Chemical stability

Stability. Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions Under normal conditions of storage and use, hazardous reactions will not occur...

10.4. Conditions to Avoid

Conditions to Avoid Ignition sources (heat, sparks or flames)

10.5. Incompatible Materials

Materials to Avoid Flammable material

10.6. Hazardous Decomposition Products

Hazardous Decomposition Product Material may produce irritating and highly toxic gases from decomposition by heat and combustion during burning Irritating and/or toxic gases

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects Product Information

Skin contact	Not classified. Skin contact May cause skin irritation.
Eye contact	Not classified. Eye contact Direct contact with eyes may cause temporary irritation, eye damage, vision loss
Inhalation	Not classified. Inhalation May cause lung irritation, dizziness, drowsiness, numbness

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Ingestion

Not classified. Ingestion May cause vomiting, diarrhea, stomachache, arrhythmias, headache, changing blood pressure

Acute toxicity - Component Information

Chemical name	Oral	Dermal	Inhalation
Hydrotreated (mild) heavy paraffinic distillate	LD50 > 15,000 mg/kg Rat	LD50 > 5,000 mg/kg Rabbit	No data available
Residual oils (petroleum), hydrotreated	LD50 > 5,000 mg/kg Rat (No Deaths, OECD Guideline 401 (Acute Oral Toxicity), GLP)	LD50 > 2,000 mg/kg Rabbit (No Deaths, OECD Guideline 402 (Acute Dermal Toxicity), GLP)	Dust LC50> 2.18 mg/l 4 hr Rat (OECD Guideline 403 (Acute Inhalation Toxicity), GLP)
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 > 5,000 mg/kg Rat	LD50 > 5,000 mg/kg Rabbit	LC50 5.53 mg/l 4 hr Rat (inhaled dust and fumes)
Lithium Hydroxystearate	No data available	No data available	No data available
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	LD50 3,195 mg/kg Rat	LD50 > 3,160 mg/kg Rabbit	Gas LC50> 5000 mg/m ³ , Rat

Sensitization

Sensitization

Not classified.

Specific effects

Carcinogenicity

Not data available

Mutagenicity

Not data available

Reproductive toxicity

Not data available

Repeated Dose Toxicity

Subchronic toxicity

Not data available

Target Organ Effects (STOT)

Target Organ Effects (STOT)

Not data available

Other information

Other adverse effects

Not data available

12. ECOLOGICAL INFORMATION

12.1. Toxicity

1) Acute toxicity

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Chemical name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish
Hydrotreated (mild) heavy paraffinic distillate	EC50 > 1000 mg/l 96 hr Scenedesmus subspicatus	EC50 > 1,000 mg/l 48 hr Daphnia magna	LC50 > 5,000 mg/l 96 hr Oncorhynchus mykiss
Residual oils (petroleum), hydrotreated	No data available	Poorly soluble substance, water solubility is less than 1mg/L, so acute toxicity is not classified.	Poorly soluble substance, water solubility is less than 1mg/L, so acute toxicity is not classified.
Distillates (petroleum), hydrotreated heavy naphthenic	EC50 > 1000 mg/l 96 hr Scenedesmus subspicatus	EC50 > 1,000 mg/l 48 hr Daphnia magna	LC50 > 5,000 mg/L 96 hr Oncorhynchus mykiss
Lithium Hydroxystearate	No data available	No data available	No data available
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	EC50 1 ~ 5 mg/l 96 hr Isochrysis galbana(ECOSAR)	EC50 1 ~ 1.5 mg/l 48 hr Daphnia magna	LC50 1 ~ 5 mg/l 96 hr Pimephales promelas

2) Chronic Toxicity Not data available

Effects on terrestrial organisms Not data available

12.2. Persistence and degradability

General Information

Chemical name	Persistence	Degradability
Hydrotreated (mild) heavy paraffinic distillate	log Kow 3.9 ~ 6 (estimate)	No data available
Residual oils (petroleum), hydrotreated	log Kow 8.81	BOD5/COD (No data on degradability)
Distillates (petroleum), hydrotreated heavy naphthenic	log Kow 3.9 ~ 6 (estimate)	No data available
Lithium Hydroxystearate	log Kow 2.60	No data available
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	log Kow 14.876 (log Pow, 25°C)	No data available

12.3. Bioaccumulative potential

Product Information Not data available

logPow Not data available

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Component Information Not data available

12.4. Mobility in soil

Soil Not data available

Air Not data available

Water Not data available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment Not data available

12.6. Other adverse effects

General Information Not data available

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Contaminated packaging Dispose of contents/container in accordance with relevant regulation.

Other information Not data available

14. TRANSPORT INFORMATION

ADR/RID Not applicable

IMDG/IMO Not applicable

ICAO/IATA Not applicable

ADN Not applicable

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

EU regulations : Authorisations: Not regulated
: Restrictions on use: Not regulated

Other EU regulations
Substance of Rotterdam Convention : Not regulated
Substance of Stockholm Convention : Not regulated
Substance of Montreal Protocol

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SVHC list : Not regulated
: Not regulated

Harmonized classification – Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation) : Not available

Further information

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

16. OTHER INFORMATION

Abbreviations, acronyms

ACGIH = American Conference of Government Industrial Hygienists

CLP = Classification Labelling Packaging Regulation ; Regulation (EC) No 1278/2008

CAS No. = Chemical Abstracts Service number

EC Number = EINECS and ELINCS Number (see also EINECS and ELINCS)

EU = European Union

OSHA = European Agency for Safety and Health at work

PBT = Persistent, Bioaccumulative and Toxic substance

REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 2020/878

SVHC = Substances of Very High Concern

vPvB = Very Persistent and Very Bioaccumulative

UN = United Nations

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Revision Note Rev.0

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of the safety data sheet