

1 PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name: ZF RENOLIT LX-PEP 2

Product number: 0671.090.374

Other means of identification: For further information, please refer to section 9 of the SDS.

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

Identified uses: Lubricating grease

Uses advised against: No uses advised against identified.

1.3 Details of the supplier of the safety data sheet

Manufacturer/supplier: ZF Friedrichshafen AG
Löwentaler Straße 20
D-88046 Friedrichshafen
Germany
Telefon: +1 847 478 6868
Fax: +1 847 478 6843

1.4 Emergency telephone :

24/7 Emergency information/ emergency number:
(+49) 89 19 240 (Poison emergency call–Information in German and English)

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

The product has not been classified as hazardous and does not need to be labelled according to the legislation in force.

Hazard summary

Physical Hazards: No data available.

2.2 Label Elements Not applicable

2.3 Other hazards: By handling of mineral oil products and chemical products no particular hazard is known when normal precautions (item 7) and personal protective equipment (item 8) are kept. The product may not be released into the environment without control.

Unknown toxicity: Due to information available product does not contain any ingredients of unknown toxicity.

3 COMPOSITION / INFORMATION ON INGREDIENTS

General information: Lubricating grease: Thickener system and additives in solvent refined mineral oil.

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Chemical name	Identifier	Concentration *	Notes
ZnDTP	85940-28-9	1.00 - <2.50%	
Zn compound	12001-85-3	0.10 - <1.00%	
Thickener compound for lithium greases	12007-60-2	0.10 - <1.00%	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Identifier	Classification
ZnDTP	85940-28-9	Eye Irrit. 2;H319, Skin Irrit. 2;H315, Aquatic Chronic 2;H411
Zn compound	12001-85-3	Aquatic Chronic 2;H411, Skin Sens. 1B;H317, Eye Irrit. 2;H319
Thickener compound for lithium greases	12007-60-2	Acute Tox. 4;H302, Eye Dam. 1;H318, Repr. 2;H361d

Please note that the mineral oils and petroleum distillates used in our products are severely refined and have a DMSO extract < 3% as measured by method IP 346 and are not classified as carcinogenic according to Note L of Annex VI of Regulation EC 1272/2008."

4 FIRST AID MEASURES

General: Instantly remove any clothing soiled by the product.

4.1 Description of first aid measures

Inhalation: Supply fresh air; consult doctor in case of symptoms.

Eye contact: Promptly wash eyes with plenty of water while lifting the eye lids.

Skin Contact: Wash with soap and water.

Ingestion: Rinse mouth thoroughly.

4.2 Most important symptoms and effects, both acute and delayed: May cause skin and eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed Get medical attention if symptoms occur.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: CO₂, fire extinguishing powder or fog like water spraying. Extinguish larger fires with alcohol resistant foam or spray water with suitable surfactant added

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Unsuitable extinguishing media: Water with a full water jet.

5.2 Special hazards arising from the substance or mixture: During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

Special fire fighting procedures: Move container from fire area if it can be done without risk. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations. Collect contaminated fire fighting water separately. It must not enter drains.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: Not required.

6.2 Environmental Precautions: Avoid release to the environment. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so. Do not allow to enter drainage system, surface or ground water.

6.3 Methods and material for containment and cleaning up: Scrape up spillage or absorb with absorbing material. Dispose of the material collected according to regulations. Stop the flow of material, if this is without risk.

6.4 Reference to other sections: See Section 8 of the SDS for Personal Protective Equipment. See Section 7 for information on safe handling See Section 13 for information on disposal.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling: Provide adequate ventilation. Observe good industrial hygiene practices. Do not eat, drink or smoke when working with the product. Take usual precautions when handling mineral oil products or chemical products.

7.2 Conditions for safe storage, including any incompatibilities: Local regulations concerning handling and storage of waterpolluting products have to be followed.

7.3 Specific end use(s): Not applicable

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1.Exposure Limits

None of the components have assigned exposure limits.

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8.2.Exposure controls

Appropriate engineering controls: Provide adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information: Wash hands before breaks and after work. Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. The usual precautionary measures should be adhered to in handling the chemicals or the mineral oil products.

Eye/face protection: Safety glasses (EN 166) recommended during refilling.

Skin protection

Hand Protection:

Material: Nitrile-butadiene rubber (NBR).
Min. Breakthrough time: ≥ 480 min
Recommended thickness of the material: ≥ 0.38 mm

Avoid long-term and repeated skin contact. Suitable gloves can be recommended by the glove supplier. Use skin protection cream for preventive skin protection. Protective gloves, where permitted in acc. to safety directions. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Other: Do not carry cleaning cloths impregnated with the product in trouser pockets. Wear suitable protective clothing.

Respiratory Protection: Not relevant, due to the form of the product.

Thermal hazards: No data available.

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 to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Environmental Controls: No data available.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	solid
Form:	Paste
Color:	Green
Odor:	Characteristic
Odor Threshold:	Not applicable for mixtures
pH:	Not applicable

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Freezing point:	Not applicable for mixtures
Boiling Point:	Not applicable
Flash Point:	Not applicable
Evaporation Rate:	Not applicable for mixtures
Flammability (solid, gas):	Value not relevant for classification
Flammability Limit - Upper (%)-:	Not applicable for mixtures
Flammability Limit - Lower (%)-:	Not applicable for mixtures
Vapor pressure:	Not applicable for mixtures
Vapor density (air=1):	Not applicable for mixtures
Density:	0.90 g/cm ³ (25 °C)
Solubility(ies)	
Solubility in Water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Not applicable for mixtures
Autoignition Temperature:	Value not relevant for classification
Decomposition Temperature:	Value not relevant for classification
NLGI:	2
Explosive properties:	Value not relevant for classification
Oxidizing properties:	Value not relevant for classification
9.2 Other information	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity:	Stable under normal use conditions.
10.2 Chemical Stability:	Stable under normal use conditions.
10.3 Possibility of hazardous reactions:	Stable under normal use conditions.
10.4 Conditions to avoid:	Stable under normal use conditions.
10.5 Incompatible Materials:	Strong oxidizing substances. Strong acids. Strong bases.
10.6 Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11 TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

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Acute toxicity

Oral

Product:

Not classified for acute toxicity based on available data.

Specified substance(s)

Zn compound

LC 50 (Rat): 4,920 mg/kg

Thickener compound for lithium greases

LD 50 (Rat): 500 mg/kg (OECD 423)

Dermal

Product:

Not classified for acute toxicity based on available data.

Specified substance(s)

Thickener compound for lithium greases

Based on available data, the classification criteria are not met.

Inhalation

Product:

Not classified for acute toxicity based on available data.

Specified substance(s)

Zn compound

LC 0 (Rat, 4 h): > 11.6 mg/l

Thickener compound for lithium greases

No data available.

Skin Corrosion/Irritation:

Product:

Based on available data, the classification criteria are not met.

Specified substance(s)

Thickener compound for lithium greases

OECD 431 Based on available data, the classification criteria are not met.
OECD 439 Based on available data, the classification criteria are not met.

Serious Eye Damage/Eye Irritation:

Product:

Based on available data, the classification criteria are not met.

Specified substance(s)

Thickener compound for lithium greases

OECD 437 Not applicable
OECD 405 Corrosive.

Respiratory or Skin Sensitization:

Product:

Skin sensitizer: Based on available data, the classification criteria are not met.
Respiratory sensitizer: Based on available data, the classification criteria are not met.

Specified substance(s)

Thickener compound for lithium greases

Based on available data, the classification criteria are not met.

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Germ Cell Mutagenicity

Product: Based on available data, the classification criteria are not met.
In vitro
Specified substance(s)
Thickener compound for lithium greases (OECD 473)
Based on available data, the classification criteria are not met.

Carcinogenicity

Product: Based on available data, the classification criteria are not met.

IARC: IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

NTP: US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

OSHA: US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Reproductive toxicity

Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure

Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Repeated Exposure

Product: Based on available data, the classification criteria are not met.

Aspiration Hazard

Product: Based on available data, the classification criteria are not met.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Acute toxicity

Product: Based on available data, the classification criteria are not met.

Fish

Specified substance(s)

Zn compound LC 50 (Fish, 96 h): > 100 mg/l

Thickener compound for lithium greases LC 50 (Fish, 96 h): 100 mg/l (OECD 203)

Aquatic Invertebrates

Specified substance(s)

Zn compound EC 50 (Water Flea, 48 h): 35 mg/l

Thickener compound for lithium greases EC 50 (Water Flea, 48 h): 100 mg/l (OECD 202)

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Chronic ToxicityProduct: Based on available data, the classification criteria are not met.

Toxicity to Aquatic Plants

Specified substance(s)

Zn compound EC 50 (Alga, 72 h): 4 mg/l

Thickener compound for lithium greases EC 50 (Alga, 72 h): 100 mg/l (OECD 201)

12.2 Persistence and Degradability

Biodegradation

Product: Not applicable for mixtures

Specified substance(s)

Thickener compound for lithium greases Study technically not feasible

12.3 Bioaccumulative potential

Product: Not applicable for mixtures

12.4 Mobility in soil:

Product: Not applicable for mixtures

12.5 Results of PBT and vPvB assessment:

The product does not contain any substances fulfilling the PBT/vPvB criteria.

12.6 Other adverse effects:

No data available.

13 Disposal considerations

13.1 Waste treatment methods

General information: Dispose in accordance with all applicable regulations.

Disposal methods: Do not empty into drains; dispose of this material and its container in a safe way. When storing used products, ensure that the waste categories and mixing instructions are observed.

14 TRANSPORT INFORMATION

DOT

Not regulated.

IMDG - International Maritime Dangerous Goods Code

Not regulated.

IATA

Not regulated.

15 REGULATORY INFORMATION

US Federal Regulations



Product name: ZF RENOLIT LX-PEP 2

US State Regulations

Inventory Status

DSL	On or in compliance with the inventory
TSCA	On or in compliance with the inventory

16 OTHER INFORMATION

Revision Information: Vertical lines in the margin indicate an amendment.

Wording of the H-statements in section 2 and 3

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H361d Suspected of damaging the unborn child.
- H411 Toxic to aquatic life with long lasting effects.

Disclaimer:

The data contained in this safety data sheet are based on our current knowledge and experience and are given to the best of our knowledge and belief. It characterizes the product only with regard to safety requirements for handling, transport and disposal. The data do not describe the product's properties (tech. product specification). Neither should any agreed property nor the suitability of the product for any specific technical application be deduced from the data contained in this safety data sheet. Modifications on this document are not allowed. The data are not transferable to other products. In the case of mixing the product with other products or in the case of processing, the data in this safety data sheet are not necessarily valid for the new-made material. It is the responsibility of the recipient of the product to observe federal, state and local law. Please contact us to obtain up-to-date safety data sheets. This document was issued electronically and has no signature.