

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date: 11.12.2024

**Version number 2 (replaces version 1)

Revision: 06.02.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Liebherr Hydraulic Plus EM 46

Application / Use: Hydraulic oil, synthetic

Article number:

Set-number MSDS:

18119

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

Application of the substance / the preparation: Hydraulic oil

Uses advised against: No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

LIEBHERR-LOGISTICS GmbH

St. Vitus 1

DE - 88457 Kirchdorf an der Iller

LIEBHERR-COMPONENTS BIBERACH GmbH

Hans-Liebherr-Strasse 45

DE - 88400 Biberach an der Riß

LIEBHERR-WERK BIBERACH GmbH

Memminger Straße 120

DE - 88400 Biberach an der Riß

LIEBHERR-WERK EHINGEN GmbH

Dr.-Hans-Liebherr-Strasse 1

DE - 89584 Ehingen

LIEBHERR-MISCHTECHNIK GmbH

Im Elchgrund 12

DE - 88427 Bad Schussenried

LIEBHERR-MINING EQUIPMENT COLMAR SAS

49 rue Frédéric Hartmann

CS 50038

FR - 68025 Colmar Cedex

LIEBHERR-WERK NENZING GmbH

Dr.-Hans-Liebherr-Strasse 1

AT - 6710 Nenzing

Further information obtainable from:

Liebherr-Lubricant-Hotline: +49 7354 80-6060

email: lubricants@liebherr.com

1.4 Emergency telephone number:

In case of emergency ONLY:

During working hours (CET): +49 7354 80-6060

Emergency response (24 hours) CHEMTREC (CCN 617759):

+44 203 807 3798 (United Kingdom)

+353 190 146 70 (Ireland)

+31 858 880 596 (Netherlands)

+61 290 372 994 (Australia)

+64 980 10034 (New Zealand)

0800 014 676 (South Africa)

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Trade name: **Liebherr Hydraulic Plus EM 46**

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+1 703 741 5970 (USA & Canada)
+91 807 127 9207 (India)
+1 703 527 3887 (international)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 The product is not classified, according to the CLP regulation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 Void

Hazard pictograms Void

Signal word Void

Hazard statements Void

Precautionary statements

P501 Dispose of contents/container in accordance with local regulations.

2.3 Other hazards High-pressure injections of hydraulic oils under the skin can cause severe injuries.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture

Dangerous components:

On the basis of available information, the components of this preparation are not expected to impart hazardous properties to this product.

Additional information:

The wording of the hazard symbols and H-phrases is specified in section 16 if dangerous ingredients are mentioned.

Components with threshold limit values are mentioned at section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of injuries due to high-pressure injections: Take persons affected to hospital immediately, even if no symptoms arise initially or there are no signs of injury to the skin.

After inhalation: Supply fresh air.

After skin contact: Immediately wash with water and soap and rinse thoroughly.

After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Do not induce vomiting; call for medical help immediately.

Information for doctor: Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed:

Immediate surgery will possibly be necessary after injuries due to high-pressure injection, in order to keep tissue damage and functional loss to a minimum.

The composition of the injected product is not important for the emergency treatment of these injuries.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, sand, extinguishing powder.

Use fire extinguishing methods suitable to surrounding conditions.

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For safety reasons unsuitable extinguishing agents: Do not use water with full jet.

5.2 Special hazards arising from the substance or mixture: Formation of harmful gases is possible in case of fire.

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

Additional information: Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Particular danger of slipping on leaked/spilled product.

Wear protective clothing.

6.2 Environmental precautions:

Do not allow to enter sewers, surface or ground water.

Prevent from spreading (e.g. by damming-in or oil barriers).

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the material collected according to regulations.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.

No special precautions are necessary if used correctly.

Information about fire - and explosion protection: Fire class according to EN 2: B

Handling: When handling product in drums use safety footwear and suitable tools. At work please do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.

Provide floor trough without outlet.

Prevent any seepage into the ground.

Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from oxidising agents.

Further information about storage conditions:

Protect from humidity and water.

Recommended storage temperature 5 to 40 °C.

Shelf life from date of dispatch: 5 years (at proper storage)

7.3 Specific end use(s): For more information see technical information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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Additional information:

The lists valid during the making were used as basis.

If formation of steam, mist or aerosols take place the concentration in the air has to be kept at the lowest possible level.

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Avoid close or long term contact with the skin.

Respiratory protection:

No respiratory protection is ordinarily required under normal conditions of use. Select a filter suitable for combined particulate/ gases and organic vapours (boiling point > 65 ° C, AP2 - EN 14387 / F2 OV - ISO 17420), if exposure limit is exceeded or when aerosol or mist is formed.

Hand protection

Wearing protective gloves (EN ISO 374) is recommended.

Preventive skin protection by use of skin-protecting agents is recommended.

Material of gloves

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Penetration time of glove material:

The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection Wearing safety glasses (EN 166 / ISO 16321-1) is recommended.

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state

Fluid

Colour:

Light yellow

Odour:

Mild

Melting point/freezing point:

Not determined.

Boiling point or initial boiling point and boiling range

Not determined.

Flammability

The mixture is capable of catching fire or being set on fire.

Lower and upper explosion limit

Lower:

Not determined.

Upper:

Not determined.

Flash point:

>220 °C (DIN EN ISO 2592)

Auto-ignition temperature:

Not determined.

Decomposition temperature:

Not determined.

pH

Not applicable.

Viscosity:

Kinematic viscosity at 40 °C

46 mm²/s (DIN EN ISO 3104)

Solubility

water:

Not miscible or difficult to mix.

Partition coefficient n-octanol/water (log value)

Not determined.

Vapour pressure:

Not determined.

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Density and/or relative density	
Density at 15 °C:	0.833 g/cm ³ (DIN 51 757)
Relative density	Not determined.
Vapour density	Not determined.
Relative gas density	Not determined.
9.2 Other information	
Appearance:	
Form:	Fluid
Important information on protection of health and environment, and on safety.	
Explosive properties:	The product shows no danger of explosion, but it may build explosive mixtures with air (by vaporisation, oil mist formation, heating above the flash point).
Change in condition	
Pour point:	-36 °C (DIN EN ISO 3016)
Information with regard to physical hazard classes	Void

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability: Stable at normal conditions.

Thermal decomposition / conditions to be avoided: Avoid contact with heat, sparks, flames and all other sources of ignition.

10.3 Possibility of hazardous reactions: Reacts with strong oxidising agents.

10.4 Conditions to avoid No specific data available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: No dangerous decomposition products known.

Additional information: Product is not classified as inflammable but can burn.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

These statements are based on data for components of the material or for similar materials.

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

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

by inhalation: No irritant effect expected.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

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

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

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

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

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

Subacute to chronic toxicity:

Prolonged and/or repeated contact may cause defatting of the skin which can lead to dermatitis and may make the skin more susceptible to irritation and penetration by other materials.

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

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11.2 Information on other hazards

Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

SECTION 12: Ecological information

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

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability Biodegradable in accordance with the EU Eco-Label.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil The product is not soluble in water. If it enters soil, it will adsorb to soil particles and will not be mobile.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Endocrine disrupting properties The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects:

Additional ecological information:

General notes: Do not allow product to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

European waste catalogue

The recommended waste code refers to the product as delivered.

The assignment of the waste code number according to the application is to be conducted in individual cases by the waste producer based on the European Waste Code Catalogue in coordination with the regional disposal company and with aspects specific to the sector and process in mind.

13 01 12*	readily biodegradable hydraulic oils
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Uncleaned packaging: Empty packing completely. Handover to authorized disposal company.

Recommendation:

Disposal must be made according to official regulations.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

SECTION 14: Transport information

14.1 UN number or ID number

ADR, IMDG, IATA	Void
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14.2 UN proper shipping name

ADR, IMDG, IATA	Void
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14.3 Transport hazard class(es)

ADR, IMDG, IATA	Void
Class	

14.4 Packing group

ADR, IMDG, IATA	Void
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14.5 Environmental hazards:	Not applicable.
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14.6 Special precautions for user	Not applicable.
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14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
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UN "Model Regulation":	Void
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SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations:

Waterhazard class: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

None of the ingredients is listed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: Liebherr Lubricants

Contact:

Liebherr-Lubricant-Hotline: +49 7354 80-6060

email: lubricants@liebherr.com

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

* Data compared to the previous version altered.

**Information about the version number: Replaces all previous versions.