

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

#### 1.1. Product identifier

Product form	: Mixture
Product name	: NORDLUB HYDRAULIKÖL HVI 46
Product code	: 4406
Type of product	: NORDLUB
Product group	: Blend
Other means of identification	: Art.-Nr.: 15033

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

##### 1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use, Consumer use
Industrial/Professional use spec	: Non-dispersive use Used in closed systems
Function or use category	: Lubricants and additives

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

NORDLUB Deutschland GmbH  
Lange Str. 49  
D-21614 Buxtehude  
Deutschland / Germany  
T +49 (0)4161 / 55 905 - 0 - F +49 (0)4161 / 55 905 - 29  
[info@nordlub.de](mailto:info@nordlub.de) - [www.nordlub.de](http://www.nordlub.de)

#### 1.4. Emergency telephone number

Emergency number : +49 (0)4161 / 55 905 - 0

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Not classified

##### Adverse physicochemical, human health and environmental effects

No additional information available

#### 2.2. Label elements

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

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

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

### 3.2. Mixtures

Comments : The mineral oils in the product contain < 3% DMSO extract (IP 346)

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	CAS-No.: 4259-15-8 EC-No.: 224-235-5 REACH-no: 01-2119493635-27	0.1 – 0.39	Eye Dam. 1, H318 Aquatic Chronic 2, H411
2,6-Di-tert-butylphenol	CAS-No.: 128-39-2 EC-No.: 204-884-0 REACH-no: 01-2119490822-33	0.1 – 0.21	Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

#### Specific concentration limits:

Name	Product identifier	Specific concentration limits
Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)	CAS-No.: 4259-15-8 EC-No.: 224-235-5 REACH-no: 01-2119493635-27	( 50 ≤C < 100) Eye Dam. 1, H318

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Not expected to require first aid measures.  
First-aid measures after skin contact : Wash skin with mild soap and water.  
First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes.  
First-aid measures after ingestion : Do not induce vomiting. Rinse mouth. Get immediate medical advice/attention.

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

Symptoms/effects after inhalation : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.  
Symptoms/effects after skin contact : Not expected to present a significant skin hazard under anticipated conditions of normal use.  
Symptoms/effects after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use.  
Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water fog. Foam. Powder. Dry chemical product.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

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### 5.3. Advice for firefighters

Precautionary measures fire	: Exercise caution when fighting any chemical fire.
Firefighting instructions	: Use water spray or fog for cooling exposed containers.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear suitable protective clothing and gloves.

#### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing and gloves.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment	: Impound and recover large spill by mixing it with inert granular solids.
Methods for cleaning up	: Detergent. Take up liquid spill into absorbent material sand, saw dust, kieselguhr.
Other information	: Spill area may be slippery. Use suitable disposal containers.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Avoid all unnecessary exposure. Both local exhaust and general room ventilation are usually required.
Handling temperature	: < 40 °C
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage temperature	: ≤ 40 °C
Storage area	: Store in dry, cool, well-ventilated area.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

No additional information available

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

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### 8.1.4. DNEL and PNEC

Additional information : 5 mg/m<sup>3</sup> for oil mists (TWA, 8h-workday) recommended, based upon the ACGIH TLV (Analysis according to US NIOSH Method 5026, NIOSH Manual of Analytical Methods, 3rd Edition).

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

No additional information available

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Safety glasses. Gloves.

#### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

No additional information available

#### 8.2.2.2. Skin protection

#### Skin and body protection:

No special clothing/skin protection equipment is recommended under normal conditions of use

#### Hand protection:

Permeation time: minimum >480min long term exposure; material / thickness [mm]: >0,35 mm. Nitrile rubber (NBR) /

#### 8.2.2.3. Respiratory protection

#### Respiratory protection:

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation.

#### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

No additional information available

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Oily liquid.
Colour	: brown.
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	: No data available
Boiling point	: No data available
Flash point	: > 200 °C @ ASTM D92
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available

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Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 876 kg/m <sup>3</sup> @ 15°C
Solubility	: Slightly soluble, the product remains on the water surface.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: 46 mm <sup>2</sup> /s @ 40°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None under normal conditions.

### 10.4. Conditions to avoid

No data available.

### 10.5. Incompatible materials

Strong oxidizers. acids. Bases.

### 10.6. Hazardous decomposition products

None under normal conditions.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)

LD50 oral rat	3100 mg/kg
LD50 dermal rabbit	> 5000 mg/kg

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
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

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Viscosity, kinematic	46 mm <sup>2</sup> /s @ 40°C
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## SECTION 12: Ecological information

### 12.1. Toxicity

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

#### Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)

LC50 - Fish [1]	4.4 mg/l Oncorhynchus mykiss OECD 203
LC50 - Fish [2]	≥ 0 mg/l
EC50 - Crustacea [1]	75 mg/l Daphnia Magna OECD 201
EC50 96h - Algae [1]	240 mg/l Scenedesmus Subspicatus OECD 201 @21d
NOEC (acute)	220 mg/l Scenedesmus subspicatus OECD201 - biomass
NOEC (chronic)	0.4 mg/l Daphnia Magna OECD 211 @21d - results analog product

### 12.2. Persistence and degradability

#### NORDLUB HYDRAULIKÖL HVI 46

Persistence and degradability	Not soluble in water, so only minimally biodegradable.
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### 12.3. Bioaccumulative potential

#### Zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) (4259-15-8)

Partition coefficient n-octanol/water (Log Kow)	3.59
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Additional information : Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

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

### 14.1 UN number

UN-No. (ADR) : Not applicable  
UN-No. (IMDG) : Not applicable

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UN-No. (IATA) : Not applicable  
UN-No. (ADN) : Not applicable  
UN-No. (RID) : Not applicable

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable  
Proper Shipping Name (ADN) : Not applicable  
Proper Shipping Name (RID) : Not applicable

### 14.3. Transport hazard class(es)

**ADR**  
Transport hazard class(es) (ADR) : Not applicable

**IMDG**  
Transport hazard class(es) (IMDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

**ADN**  
Transport hazard class(es) (ADN) : Not applicable

**RID**  
Transport hazard class(es) (RID) : Not applicable

### 14.4. Packing group

Packing group (ADR) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable  
Packing group (ADN) : Not applicable  
Packing group (RID) : Not applicable

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

**Overland transport**

No data available

**Transport by sea**

No data available

**Air transport**

No data available

**Inland waterway transport**

No data available

**Rail transport**

No data available

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list  $\geq 0,1\%$  / SCL

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

##### 15.1.2. National regulations

###### Germany

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

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

###### Netherlands

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

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

###### Denmark

Danish National Regulations : Pregnant/breastfeeding women working with the product must not be in direct contact with the product

###### Switzerland

Storage class (LK) : LK 10/12 - Liquids

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out for the substance or the mixture by the supplier

### SECTION 16: Other information

#### Indication of changes

Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Modified	
2.2	EUH-statements	Added	
3	Composition/information on ingredients	Modified	

#### Abbreviations and acronyms:

	ACGIH: American Conference of Governmental Industrial Hygienists
	TWA: Time Weighted Average
	TLV: Threshold Limit Value
	ASTM: American Society for Testing and Materials
	ADR: Accord Européen Relatif au Transport International des Marchandises Dangereuses par Route
	RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail



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### Abbreviations and acronyms:

	ADNR: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin
	IMDG: International Maritime Dangerous Goods
	ICAO: International Civil Aviation Organization
	IATA: International Air Transport Association
	STEL: Short Term Exposure Limit
	LD50: median Lethal Dose for 50% of subjects
	ATE: acute toxicity estimate
	LC50: median Lethal Concentration for 50% of subjects
	EC50: concentration producing 50% effect

### Other information

: The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

### Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
EUH210	Safety data sheet available on request.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation, Category 2

### Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.