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Replacing version dated / version: 27.11.2017 / 0006  
Valid from: 13.03.2018  
PDF print date: 14.03.2018  
Zentralhydraulik-Oel 2400 1 L  
Art.: 3666

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

#### 1.1 Product identifier

**Zentralhydraulik-Oel 2400 1 L**  
**Art.: 3666**

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

**Relevant identified uses of the substance or mixture:**

Hydraulic oil

**Uses advised against:**

No information available at present.

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

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LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany  
Phone:(+49) 0731-1420-0, Fax:(+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

**Emergency information services / official advisory body:**

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**Telephone number of the company in case of emergencies:**

+49 (0) 700 / 24 112 112 (LMR)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) 1272/2008 (CLP)**

Hazard class	Hazard category	Hazard statement
Skin Irrit.	2	H315-Causes skin irritation.
Aquatic Chronic	3	H412-Harmful to aquatic life with long lasting effects.

#### 2.2 Label elements

**Labeling according to Regulation (EC) 1272/2008 (CLP)**



Warning

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H315-Causes skin irritation. H412-Harmful to aquatic life with long lasting effects.

P101-If medical advice is needed, have product container or label at hand. P102-Keep out of reach of children.  
 P273-Avoid release to the environment. P280-Wear protective gloves.  
 P332+P313-If skin irritation occurs: Get medical advice / attention.  
 P501-Dispose of contents / container safely.

EUH208-Contains Di-iso-octyl amino methyl tolutriazole, 3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid. May produce an allergic reaction.

## 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

In case of skin injury by high pressure, a risk of penetration of lubricant into the skin exists.

Product can compose a film on the water surface, which can prevent oxygen exchange.

Endangerment of potable water possible.

## SECTION 3: Composition/information on ingredients

Mineral oil raffinate  
Additives

### 3.1 Substance

n.a.

### 3.2 Mixture

<b>Distillates (petroleum), hydrotreated light naphthenic</b>	
<b>Registration number (REACH)</b>	---
<b>Index</b>	649-466-00-2
<b>EINECS, ELINCS, NLP</b>	265-156-6
<b>CAS</b>	64742-53-6
<b>content %</b>	30-<60
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Asp. Tox. 1, H304
<b>Distillates (petroleum), hydrotreated light paraffinic</b>	
<b>Registration number (REACH)</b>	01-2119487077-29-XXXX
<b>Index</b>	649-468-00-3
<b>EINECS, ELINCS, NLP</b>	265-158-7
<b>CAS</b>	64742-55-8
<b>content %</b>	15-<30
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Asp. Tox. 1, H304
<b>Distillates (petroleum), hydrotreated middle</b>	
<b>Registration number (REACH)</b>	---
<b>Index</b>	649-221-00-X
<b>EINECS, ELINCS, NLP</b>	265-148-2
<b>CAS</b>	64742-46-7
<b>content %</b>	15-<30
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Asp. Tox. 1, H304 Skin Irrit. 2, H315 Acute Tox. 4, H332 Aquatic Chronic 2, H411
<b>Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based</b>	
<b>Registration number (REACH)</b>	01-2119474889-13-XXXX
<b>Index</b>	649-483-00-5
<b>EINECS, ELINCS, NLP</b>	276-738-4
<b>CAS</b>	72623-87-1

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<b>content %</b>	5-<15
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Asp. Tox. 1, H304

<b>2,6-tert-butylphenol</b>	
<b>Registration number (REACH)</b>	01-2119490822-33-XXXX
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	204-884-0
<b>CAS</b>	128-39-2
<b>content %</b>	0,1-<0,5
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Skin Irrit. 2, H315 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

<b>Di-iso-octyl amino methyl tolutriazole</b>	
<b>Registration number (REACH)</b>	01-2119982395-25-XXXX
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	939-700-4 (REACH-IT List-No.)
<b>CAS</b>	(80584-90-3 + 80595-74-0)
<b>content %</b>	0,1-<0,25
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411

<b>3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid</b>	
<b>Registration number (REACH)</b>	---
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	434-070-2
<b>CAS</b>	268567-32-4
<b>content %</b>	0,1-<0,25
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Skin Sens. 1, H317 Eye Dam. 1, H318 Aquatic Chronic 3, H412

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Unsuitable cleaning product:

Solvent

Thinners

In case of skin injury by high pressure, a risk of penetration of lubricant into the skin exists.

Immediate admittance to a hospital.

#### Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.

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Do not induce vomiting - give copious water to drink. Consult doctor immediately.  
Danger of aspiration

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

Eye contact:

Temporary irritation

With long-term contact:

Drying of the skin.

Dermatitis (skin inflammation)

Oil acne

On vapour formation:

Irritation of the respiratory tract

Ingestion:

Gastrointestinal disturbances

Nausea

Vomiting

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

Symptomatic treatment.

### **SECTION 5: Firefighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

CO2

Foam

Extinction powder

##### **Unsuitable extinguishing media**

High volume water jet

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

In case of fire the following can develop:

Oxides of carbon

Toxic gases

Flammable vapour/air mixtures

#### **5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

### **SECTION 6: Accidental release measures**

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

Remove possible causes of ignition - do not smoke.

Ensure sufficient supply of air.

Avoid formation of oil mist.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

#### **6.2 Environmental precautions**

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

If accidental entry into drainage system occurs, inform responsible authorities.

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

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.

Oil binder

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Do not wash away with water or watery cleaning agents.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

- Avoid formation of oil mist.
- Ensure good ventilation.
- Keep away from sources of ignition - Do not smoke.
- Do not heat to temperatures close to flash point.
- Avoid contact with eyes.
- Avoid long lasting or intensive contact with skin.
- Do not carry cleaning cloths soaked in product in trouser pockets.
- Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
- Observe directions on label and instructions for use.
- Use working methods according to operating instructions.

#### 7.1.2 Notes on general hygiene measures at the workplace

- General hygiene measures for the handling of chemicals are applicable.
- Wash hands before breaks and at end of work.
- Keep away from food, drink and animal feedingstuffs.
- Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

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

- Keep out of access to unauthorised individuals.
- Not to be stored in gangways or stair wells.
- Store product closed and only in original packing.
- Impermeable floor.
- Protect against moisture and store closed.
- Protect from direct sunlight and warming.

### 7.3 Specific end use(s)

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Chemical Name	Distillates (petroleum), hydrotreated light naphthenic		Content %:30- <60
WEL-TWA: 5 mg/m3 (oil mist, mineral, ACGIH)	WEL-STEL: 10 mg/m3 (oil mist, mineral, ACGIH)	---	
Monitoring procedures:	---		
BMGV: ---	Other information: ---		
Chemical Name	Oil mist, mineral		Content %:
WEL-TWA: 5 mg/m3 (ACGIH)	WEL-STEL: 10 mg/m3 (ACGIH)	---	
Monitoring procedures:	- Draeger - Oil 10/a-P (67 28 371) - Draeger - Oil Mist 1/a (67 33 031)		
BMGV: ---	Other information: ---		

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).  
 (8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).  
 (8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
 \*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

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## 8.2 Exposure controls

Distillates (petroleum), hydrotreated light paraffinic						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	1	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	2,7	mg/m <sup>3</sup>	

Distillates (petroleum), hydrotreated middle						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	5000	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,9	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	16	mg/m <sup>3</sup>	

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Human - oral		PNEC	9,33	mg/kg feed	
Consumer	Human - inhalation	Long term, local effects	DNEL	1,2	mg/m <sup>3</sup>	24h
Workers / employees	Human - inhalation	Long term, local effects	DNEL	5,4	mg/m <sup>3</sup>	8h

2,6-tert-butylphenol						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - marine		PNEC	0,000045	mg/l	
	Environment - freshwater		PNEC	0,001	mg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	1,67	mg/kg	
Consumer	Human - oral		DNEL	6,75	mg/kg bw/day	
Consumer	Human - inhalation		DNEL	20,9	mg/m <sup>3</sup>	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	2,77	mg/kg	
Workers / employees	Human - dermal		DNEL	11,25	mg/kg bw/day	
Workers / employees	Human - inhalation		DNEL	70,61	mg/m <sup>3</sup>	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5,8	mg/m <sup>3</sup>	

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. BS EN 14042.

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BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

## 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Protective gloves, oil resistant (EN 374)

If applicable

Protective nitrile gloves (EN 374)

Protective gloves made of polyvinyl alcohol (EN 374)

Protective Viton® / fluoroelastomer gloves (EN 374)

Minimum layer thickness in mm:

0,5

Permeation time (penetration time) in minutes:

480

Protective hand cream recommended.

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

Normally not necessary.

With oil mist formation:

Filter A2 P2 (EN 14387), code colour brown, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

## 8.2.3 Environmental exposure controls

No information available at present.

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Green, Yellow
Odour:	Mineral oil
Odour threshold:	Not determined
pH-value:	n.a. (DIN 51369)
Melting point/freezing point:	~ (-51) °C (Pourpoint, DIN ISO 3016 )
Initial boiling point and boiling range:	Not determined
Flash point:	~126 °C (ISO 2592 (Cleveland, open cup))
Evaporation rate:	Not determined

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Flammability (solid, gas):	Not determined
Lower explosive limit:	Product is not explosive.
Upper explosive limit:	Product is not explosive.
Vapour pressure:	<0,1 hPa (20°C, calculated )
Vapour density (air = 1):	Not determined
Density:	0,87 g/cm <sup>3</sup> (15°C, DIN 51757)
Bulk density:	n.a.
Solubility(ies):	Hydrocarbons, Mineral oil
Water solubility:	Insoluble 20°C
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	Not determined
Decomposition temperature:	>300 °C
Viscosity:	~21 mm <sup>2</sup> /s (40°C, DIN 51562 (Ubbelohde viscometer))
Explosive properties:	Product is not explosive.
Oxidising properties:	No
<b>9.2 Other information</b>	
Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	0 %

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

See also section 7.

Heating, open flame, ignition sources

### 10.5 Incompatible materials

See also section 7.

Avoid contact with strong oxidizing agents.

### 10.6 Hazardous decomposition products

See also section 5.2

No decomposition when used as directed.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	ATE	>20	mg/l/4h			calculated value, Vapours
Acute toxicity, by inhalation:	ATE	>5	mg/l/4h			calculated value, Aerosol, Mist
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.



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Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

**Distillates (petroleum), hydrotreated light naphthenic**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Aspiration hazard:						Yes

**Distillates (petroleum), hydrotreated light paraffinic**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 420 (Acute Oral toxicity - Fixe Dose Procedure)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol
Skin corrosion/irritation:						Not irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:						Not sensitising

**Distillates (petroleum), hydrotreated middle**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	4,6	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol
Acute toxicity, by inhalation:	LC50	1,72	mg/l/4h	Rat		Mist, Aerosol
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Not sensitising
Carcinogenicity:						Negative DMSO-extract <3% (IP 346)
Aspiration hazard:						Yes
Symptoms:						headaches, nausea and vomiting.

**Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based**

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5,53	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	

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Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:					OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity:					OECD 451 (Carcinogenicity Studies)	Negative
Carcinogenicity:					OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative
Reproductive toxicity:					OECD 414 (Prenatal Developmental Toxicity Study)	Negative
Reproductive toxicity:					OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Negative
Aspiration hazard:						Asp. Tox. 1

#### 2,6-tert-butylphenol

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	10000	mg/kg	Rabbit		
Symptoms:						burns, nausea and vomiting., sore throat, stomach pain
Specific target organ toxicity - repeated exposure (STOT-RE), oral:	NOAEL	100	mg/kg bw/d	Rat		Target organ(s): liver

#### Di-iso-octyl amino methyl tolutriazole

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	3313	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Yes (skin contact)

#### 3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	

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## SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							Mechanical precipitation possible.
12.3. Bioaccumulative potential:							Not to be expected
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.

### Distillates (petroleum), hydrotreated light paraffinic

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LL50	96h	>100	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to fish:	NOEC/NOEL	28d	>1000	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to daphnia:	EC50	48h	>10000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	10	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EL50	72h	>100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:			31	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		>6				@20°C
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

### Distillates (petroleum), hydrotreated middle

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1,13	mg/l			
12.2. Persistence and degradability:		28d	25	%		84/449/EEC C.7	Not readily biodegradable

### Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOEC/NOEL	96h	>=100	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	

12.1. Toxicity to fish:	LL50	96h	> 100	mg/l	Pimephales promelas	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EL50	48h	>10000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	10	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	>=100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	EL50	48h	>100	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	46	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	
12.3. Bioaccumulative potential:	Log Kow		4,1				A notable biological accumulation potential has to be expected (LogPow > 3).
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	NOEC/NOEL	10min	>1,93	mg/l		DIN 38412 T.8	

**2,6-tert-butylphenol**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to daphnia:	LC50	21d	0,23	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to fish:	LC50	96h	1,4	mg/l	Pimephales promelas	OECD 204 (Fish, Prolonged Toxicity Test - 14-Day Study)	
12.1. Toxicity to daphnia:	EC50	48h	0,45-0,8	mg/l	Daphnia magna	U.S. EPA ECOTOX Database	
12.1. Toxicity to algae:	EC50	3d	3,6	mg/l	Selenastrum capricornutum		
12.2. Persistence and degradability:	DOC	28d	24	%		OECD 302 B (Inherent Biodegradability - Zahn-Wellens/EMPA Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Kow		4,5				

**Di-iso-octyl amino methyl tolutriazole**

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	1,3	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	

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12.1. Toxicity to daphnia:	EC50	48h	2,05	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
12.1. Toxicity to algae:	EC50	72h	0,976	mg/l	Desmodesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	60	%		OECD 301 B (Ready Biodegradability - Co2 Evolution Test)	
12.3. Bioaccumulative potential:	BCF		1676				

3-(Diisobutoxy-thiophosphorylsulfanyl)-2-methyl-propionic acid							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	38	mg/l	Brachydanio rerio	Regulation (EC) 440/2008 C.1 (ACUTE TOXICITY FOR FISH)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	3,6	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.2. Persistence and degradability:		28d	3	%		OECD 301 C (Ready Biodegradability - Modified MITI Test (I))	Not readily biodegradable

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

Soaked polluted cloths, paper or other organic materials represent a fire hazard and should be controlled, collected and disposed of. EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

13 01 10 mineral based non-chlorinated hydraulic oils

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Implement substance recycling.

E.g. suitable incineration plant.

#### For contaminated packing material

Pay attention to local and national official regulations.

15 01 02 plastic packaging

15 01 04 metallic packaging

Empty container completely.

Untampered packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

## SECTION 14: Transport information

### General statements

14.1. UN number:

n.a.

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**Transport by road/by rail (ADR/RID)**

14.2. UN proper shipping name:  
 14.3. Transport hazard class(es): n.a.  
 14.4. Packing group: n.a.  
 Classification code: n.a.  
 LQ: n.a.  
 14.5. Environmental hazards: Not applicable  
 Tunnel restriction code:

**Transport by sea (IMDG-code)**

14.2. UN proper shipping name:  
 14.3. Transport hazard class(es): n.a.  
 14.4. Packing group: n.a.  
 Marine Pollutant: n.a.  
 14.5. Environmental hazards: Not applicable

**Transport by air (IATA)**

14.2. UN proper shipping name:  
 14.3. Transport hazard class(es): n.a.  
 14.4. Packing group: n.a.  
 14.5. Environmental hazards: Not applicable

**14.6. Special precautions for user**

Unless specified otherwise, general measures for safe transport must be followed.

**14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**

Non-dangerous material according to Transport Regulations.

**SECTION 15: Regulatory information**

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

Observe restrictions:  
 Comply with trade association/occupational health regulations.

**15.2 Chemical safety assessment**

A chemical safety assessment is not provided for mixtures.

**SECTION 16: Other information**

Revised sections: 2, 3, 4, 8, 9, 11, 12, 15  
 These details refer to the product as it is delivered.  
 Employee instruction/training in handling hazardous materials is required.

**Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):**

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Skin Irrit. 2, H315	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).  
 H304 May be fatal if swallowed and enters airways.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H332 Harmful if inhaled.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.

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H411 Toxic to aquatic life with long lasting effects.  
 H412 Harmful to aquatic life with long lasting effects.

Skin Irrit. — Skin irritation  
 Aquatic Chronic — Hazardous to the aquatic environment - chronic  
 Asp. Tox. — Aspiration hazard  
 Acute Tox. — Acute toxicity - inhalation  
 Aquatic Acute — Hazardous to the aquatic environment - acute  
 Skin Sens. — Skin sensitization  
 Eye Dam. — Serious eye damage

### Any abbreviations and acronyms used in this document:

AC Article Categories  
 acc., acc. to according, according to  
 ACGIH American Conference of Governmental Industrial Hygienists  
 ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 AOEL Acceptable Operator Exposure Level  
 AOX Adsorbable organic halogen compounds  
 approx. approximately  
 Art., Art. no. Article number  
 ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)  
 BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)  
 BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)  
 BCF Bioconcentration factor  
 BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)  
 BHT Butylhydroxytoluol (= 2,6-Di-*t*-butyl-4-methyl-phenol)  
 BMGV Biological monitoring guidance value (EH40, UK)  
 BOD Biochemical oxygen demand  
 BSEF Bromine Science and Environmental Forum  
 bw body weight  
 CAS Chemical Abstracts Service  
 CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids  
 CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques  
 CIPAC Collaborative International Pesticides Analytical Council  
 CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)  
 CMR carcinogenic, mutagenic, reproductive toxic  
 COD Chemical oxygen demand  
 CTFA Cosmetic, Toiletry, and Fragrance Association  
 DMEL Derived Minimum Effect Level  
 DNEL Derived No Effect Level  
 DOC Dissolved organic carbon  
 DT50 Dwell Time - 50% reduction of start concentration  
 DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)  
 dw dry weight  
 e.g. for example (abbreviation of Latin 'exempli gratia'), for instance  
 EC European Community  
 ECHA European Chemicals Agency  
 EEA European Economic Area  
 EEC European Economic Community  
 EINECS European Inventory of Existing Commercial Chemical Substances  
 ELINCS European List of Notified Chemical Substances  
 EN European Norms  
 EPA United States Environmental Protection Agency (United States of America)  
 ERC Environmental Release Categories  
 ES Exposure scenario  
 etc. et cetera  
 EU European Union  
 EWC European Waste Catalogue  
 Fax. Fax number

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gen. general  
 GHS Globally Harmonized System of Classification and Labelling of Chemicals  
 GWP Global warming potential  
 HET-CAM Hen's Egg Test - Chorionallantoic Membrane  
 HGWP Halocarbon Global Warming Potential  
 IARC International Agency for Research on Cancer  
 IATA International Air Transport Association  
 IBC Intermediate Bulk Container  
 IBC (Code) International Bulk Chemical (Code)  
 IC Inhibitory concentration  
 IMDG-code International Maritime Code for Dangerous Goods  
 incl. including, inclusive  
 IUCLID International Uniform Chemical Information Database  
 LC lethal concentration  
 LC50 lethal concentration 50 percent kill  
 LCLo lowest published lethal concentration  
 LD Lethal Dose of a chemical  
 LD50 Lethal Dose, 50% kill  
 LDLo Lethal Dose Low  
 LOAEL Lowest Observed Adverse Effect Level  
 LOEC Lowest Observed Effect Concentration  
 LOEL Lowest Observed Effect Level  
 LQ Limited Quantities  
 MARPOL International Convention for the Prevention of Marine Pollution from Ships  
 n.a. not applicable  
 n.av. not available  
 n.c. not checked  
 n.d.a. no data available  
 NIOSH National Institute of Occupational Safety and Health (United States of America)  
 NOAEC No Observed Adverse Effective Concentration  
 NOAEL No Observed Adverse Effect Level  
 NOEC No Observed Effect Concentration  
 NOEL No Observed Effect Level  
 ODP Ozone Depletion Potential  
 OECD Organisation for Economic Co-operation and Development  
 org. organic  
 PAH polycyclic aromatic hydrocarbon  
 PBT persistent, bioaccumulative and toxic  
 PC Chemical product category  
 PE Polyethylene  
 PNEC Predicted No Effect Concentration  
 POCP Photochemical ozone creation potential  
 ppm parts per million  
 PROC Process category  
 PTFE Polytetrafluorethylene  
 REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
 REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.  
 RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
 SADT Self-Accelerating Decomposition Temperature  
 SAR Structure Activity Relationship  
 SU Sector of use  
 SVHC Substances of Very High Concern  
 Tel. Telephone  
 ThOD Theoretical oxygen demand  
 TOC Total organic carbon  
 TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)  
 UN RTDG United Nations Recommendations on the Transport of Dangerous Goods  
 VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))  
 VOC Volatile organic compounds  
 vPvB very persistent and very bioaccumulative



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WEL-TWA, WEL-STEL      WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO    World Health Organization

wwt    wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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