

# SAFETY DATA SHEET



2-Ethylhexanol  
10050

Version / Revision  
Supersedes Version

4.01  
4.00\*\*\*

Revision Date  
Issuing date

03-Feb-2022  
03-Feb-2022

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

### 1.1. Product identifier

Identification of the  
substance/preparation

# 2-Ethylhexanol

CAS-No 104-76-7  
EC No. 203-234-3  
Registration number (REACH) 01-2119487289-20

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

Identified uses	Formulation coatings cleaning agent Dilution of a concentrate Oil field drilling and production operations Functional Fluids Intermediate
Uses advised against	None

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

Company/Undertaking Identification	<b>OQ Chemicals GmbH</b> Rheinpromenade 4A D-40789 Monheim Germany
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Product Information	Product Stewardship FAX: +49 (0)208 693 2053 email: sc.psq@oq.com
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### 1.4. Emergency telephone number

Emergency telephone number +65 3158 1198 (available 24/7)  
000800 100 7479 (for domestic shipments only)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Acute inhalation toxicity Category 4, H332  
Skin corrosion/irritation Category 2, H315  
Serious eye damage/eye irritation Category 2, H319  
Target Organ Systemic Toxicant - Single exposure Category 3, H335

### Additional information

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For full text of Hazard- and EU Hazard-statements see SECTION 16.

## 2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

### Hazard pictograms



#### Signal word

#### Warning

#### Hazard statements

H332: Harmful if inhaled.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.

#### Precautionary statements

P261: Avoid breathing gas/mist/vapours.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312: Call a POISON CENTRE/doctor if you feel unwell.

## 2.3. Other hazards

Vapour/air-mixtures are explosive at intense warming

Components of the product may be absorbed into the body by inhalation, ingestion and through the skin

#### PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

Component	CAS-No	REACH-No	1272/2008/EC	Concentration (%)
2-Ethylhexan-1-ol	104-76-7	01-2119487289-20	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	> 99,5

For full text of Hazard- and EU Hazard-statements see SECTION 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

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## Eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

## Skin

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

## Ingestion

Call a physician immediately. Do not induce vomiting without medical advice.

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

### Main symptoms

cough, headache, weakness, dizziness, gastrointestinal discomfort, nausea, unconsciousness, shortness of breath.

### Special hazard

Lung irritation.

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

### General advice

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically. If ingested, irrigate the stomach using activated charcoal.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

foam, dry chemical, carbon dioxide (CO<sub>2</sub>), water spray

#### Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

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

Under conditions giving incomplete combustion, hazardous gases produced may consist of:

carbon monoxide (CO)

carbon dioxide (CO<sub>2</sub>)

Combustion gases of organic materials must in principle be graded as inhalation poisons

Vapours are heavier than air and may spread along floors

Vapour/air-mixtures are explosive at intense warming

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

#### Precautions for firefighting

Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and

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upwind of fire.

## SECTION 6: Accidental release measures

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

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

For emergency responders: Personal protection see section 8.

### 6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

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

#### Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

#### Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

### 6.4. Reference to other sections

For personal protective equipment see section 8.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

#### Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

#### Advice on the protection of the environment

See Section 8: Environmental exposure controls.

#### Incompatible products

strong oxidizing agents

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

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour/air-mixtures are explosive at intense

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warming.

## Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Keep at temperatures between 0 and 49 °C (32 and 120 °F).

## Suitable material

stainless steel

## Unsuitable material

None known

## Temperature class

T3

## 7.3. Specific end use(s)

Formulation  
coatings  
cleaning agent  
Dilution of a concentrate  
Oil field drilling and production operations  
Functional Fluids  
Intermediate

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

#### Exposure limits India

No exposure limits established.

### 8.2. Exposure controls

#### Appropriate Engineering controls

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

#### Personal protective equipment

#### **General industrial hygiene practice**

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Hygiene measures**

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

#### **Respiratory protection**

Respirator with A filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

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## Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

<b>Suitable material</b>	nitrile rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,55 mm
<b>Break through time</b>	> 480 min
<b>Suitable material</b>	polyvinylchloride
<b>Evaluation</b>	Information derived from practical experience
<b>Glove thickness</b>	approx 0,8 mm

## Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Equipment should conform to EN 166

## Skin and body protection

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

## Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

## SECTION 9: Physical and chemical properties

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

<b>Appearance</b>	liquid @ 20 °C (68 °F)
<b>Colour</b>	colourless
<b>Odour</b>	slight
<b>Odour threshold</b>	0,08 ppm
<b>pH</b>	5,8 (0,9 g/l in water @ 20 °C (68 °F)) OECD 105***
<b>Melting point/range</b>	-89 °C (Pour point)
<b>Boiling point/range</b>	184 °C @ 1013 hPa
<b>Flash point</b>	77 °C @ 1013 hPa***
<b>Method</b>	ISO 2719
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	Does not apply, the substance is a liquid
<b>Lower explosion limit</b>	0,79 Vol %
<b>Upper explosion limit</b>	12,7 Vol %

### Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
0,93	0,093	0,00091	20	68	OECD 104
3,8	0,38	0,003750	50	122	OECD 104

**Vapour density** 4,5 (Air = 1) @ 20 °C (68 °F)

### Relative density

Values	@ °C	@ °F	Method
0,832	20	68	DIN 51757

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<b>Solubility</b>	0,9 g/l @ 20 °C, in water, OECD 105
<b>log Pow</b>	2,9 (measured) OECD 117
<b>Autoignition temperature</b>	280 °C @ 1017 hPa***
<b>Method</b>	DIN 51794
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	9,845 mPa*s @ 20 °C
<b>Method</b>	DIN 51562, dynamic***
<b>Oxidizing properties</b>	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties***
<b>Explosive properties</b>	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

## 9.2. Other information

<b>Molecular weight</b>	130,23
<b>Molecular formula</b>	C8 H18 O
<b>log Koc</b>	2,12 calculated***
<b>Dissociation constant</b>	pKa 15,75 @ 25 °C (77 °F) (calculated)
<b>Refractive index</b>	1,431 @ 20 °C
<b>Surface tension</b>	47 mN/m (0,81 g/l @ 20°C (68°F)), OECD 115

## SECTION 10: Stability and Reactivity

### 10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

### 10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

### 10.5. Incompatible materials

strong oxidizing agents.

### 10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Likely routes of exposure**      Ingestion, Inhalation, Eye contact, Skin contact

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<b>Acute toxicity</b>				
<b>2-Ethylhexan-1-ol (104-76-7)</b>				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	~2047 mg/kg	rat, male	OECD 401
Dermal	LD0	> 3000 mg/kg	rat, male/female	OECD 402
Inhalative	LC50	> 0,89 - < 5,3 mg/l (4h)	rat, male/female	OECD 403

## **2-Ethylhexan-1-ol, CAS: 104-76-7**

### **Assessment**

The available data lead to the classification given in section 2

<b>Irritation and corrosion</b>				
<b>2-Ethylhexan-1-ol (104-76-7)</b>				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	severe irritation	OECD 404	4h
Eyes	rabbit	irritating	OECD 405	
Respiratory tract	human	irritating		

## **2-Ethylhexan-1-ol, CAS: 104-76-7**

### **Assessment**

The available data lead to the classification given in section 2

<b>Sensitization</b>				
<b>2-Ethylhexan-1-ol (104-76-7)</b>				
Target Organ Effects	Species	Evaluation	Method	
Skin	Human experience	not sensitizing	Maximisation Test	

## **2-Ethylhexan-1-ol, CAS: 104-76-7**

### **Assessment**

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

Skin sensitization

For respiratory sensitization, no data are available

<b>Subacute, subchronic and prolonged toxicity</b>				
<b>2-Ethylhexan-1-ol (104-76-7)</b>				
Type	Dose	Species	Method	
Subchronic toxicity	NOEL: 125 mg/kg/d (90d)	rat, male/female	OECD 408	Oral
Subchronic toxicity	NOAEL: 250 mg/kg/d (90d)	rat, male/female	OECD 408	Oral
Subchronic toxicity	NOEL: 125 mg/kg/d (90d)	mouse, male/female	OECD 408	Oral
Subchronic toxicity	NOAEL: 250 mg/kg/d (90d)	mouse, male/female	OECD 408	Oral
Subchronic toxicity	NOAEC: 120 ppm (90 d)	rat, male/female	OECD 413	Inhalation

## **2-Ethylhexan-1-ol, CAS: 104-76-7**

### **Assessment**

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

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<b>Carcinogenicity, Mutagenicity, Reproductive toxicity</b>					
<b>2-Ethylhexan-1-ol (104-76-7)</b>					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	In vitro study
Mutagenicity		Escherichia coli	negative	OECD 472	In vitro study
Mutagenicity		CHO (Chinese Hamster Ovary) cells	negative	OECD 473 (Chromosomal Aberration)	In vitro study
Mutagenicity		mouse lymphoma cells	negative	OECD 476 (Mammalian Gene Mutation)	In vitro study
Carcinogenicity	NOAEL 500 mg/kg/d	rat, male/female	negative	OECD 451, Oral	
Carcinogenicity	NOAEL 750 mg/kg/d	mouse male/female***	negative***	OECD 451, Oral	
Mutagenicity		CHO (Chinese Hamster Ovary) cells	negative	OECD 476 (Mammalian Gene Mutation)	In vitro study
Mutagenicity		mouse***	negative	OECD 474***	in vivo
Reproductive toxicity	NOAEL 10000 mg/kg/d	rat, parental***		OECD 416 Oral***	Fertility read across
Reproductive toxicity	NOAEL 3000 mg/kg/d	rat, parental***		OECD 416 Oral***	Maternal toxicity read across
Reproductive toxicity	NOAEL 3000 mg/kg/d	rat***		OECD 416 Oral***	Developmental toxicity read across
Developmental Toxicity	NOAEL 191 mg/kg/d***	mouse***	negative	OECD 414, Oral***	Maternal toxicity, Developmental toxicity, Teratogenicity***
Developmental Toxicity***	NOAEC: 850 mg/m <sup>3</sup> ***	rat***		OECD 414, Inhalative***	Maternal toxicity, Developmental toxicity, Teratogenicity***
Developmental Toxicity***	NOAEL 840 mg/kg/d***	rat***		OECD 414, Dermal***	Maternal toxicity***
Developmental Toxicity***	NOAEL 2520 mg/kg/d***	rat***		OECD 414, Dermal***	Developmental toxicity, Teratogenicity***

## **2-Ethylhexan-1-ol, CAS: 104-76-7**

### **CMR Classification**

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

### **Evaluation**

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

- Mutagenicity
- Developmental toxicity
- Reproductive toxicity
- Carcinogenicity\*\*\*

## **2-Ethylhexan-1-ol, CAS: 104-76-7**

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## Main symptoms

cough, headache, weakness, dizziness, gastrointestinal discomfort, nausea, unconsciousness, shortness of breath.

## Target Organ Systemic Toxicant - Single exposure

respiratory system

The available data lead to the classification given in section 2

## Target Organ Systemic Toxicant - Repeated exposure

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

STOT RE

## Aspiration toxicity

no data available

## Other adverse effects

Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.

## Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:

<http://echa.europa.eu/information-on-chemicals/registered-substances>.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Acute aquatic toxicity

##### 2-Ethylhexan-1-ol (104-76-7)

Species	Exposure time	Dose	Method
Leuciscus idus (Golden orfe)	96h	LC50: 17,1 mg/l	84/449/EEC C.1
Pimephales promelas (fathead minnow)	96h	LC50: 28,2 mg/l	OECD 203
Daphnia magna (Water flea)	48h	EC50: 39 mg/l	84/449/EEC C.2
Desmodesmus subspicatus	72h	EC50: 11,5 mg/l (Biomass)	88/302/EEC C.3
Desmodesmus subspicatus	72h	EC50: 16,6 mg/l (Growth rate)	88/302/EEC C.3
Activated sludge (domestic)	24h	NOEC: > 300 mg/l	ETAD Fermentation tube method

#### Long term toxicity

##### 2-Ethylhexan-1-ol (104-76-7)

Type	Species	Dose	Method
Aquatic toxicity	Scenedesmus subspicatus	EC10: 3,2 mg/l (72 h) Biomass***	88/302/EEC C.3
Aquatic toxicity***	Scenedesmus subspicatus***	EC10: 5,3 mg/l (72 h) Growth rate***	88/302/EEC C.3***

### 12.2. Persistence and degradability

#### 2-Ethylhexan-1-ol, CAS: 104-76-7

##### Biodegradation

100 % (14 d), activated sludge, non-adapted, aerobic, OECD 301 C,

97 % (7 d), activated sludge, industrial, non-adapted, aerobic, OECD 302 B (Zahn-Wellens Test).\*\*\*

##### Abiotic Degradation

##### 2-Ethylhexan-1-ol (104-76-7)

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Type	Result	Method
Hydrolysis	No data available	
Photolysis	Rate constant: $1,13 \times 10^{-11}$ cm <sup>3</sup> /(molecule x s) Atmospheric lifetime: 24,6 h <sup>***</sup>	measured <sup>***</sup>

## 12.3. Bioaccumulative potential

2-Ethylhexan-1-ol (104-76-7)		
Type	Result	Method
log Pow	2,9 @ 25 °C (77 °F) <sup>***</sup>	measured, OECD 117
BCF	38	calculated

## 12.4. Mobility in soil

2-Ethylhexan-1-ol (104-76-7)		
Type	Result	Method
Adsorption/Desorption	Koc: 131,1 @ 20 °C	calculated
Surface tension	47 mN/m (0,81 g/l @ 20°C (68°F))	OECD 115
Distribution to environmental compartments <sup>***</sup>	no data available <sup>***</sup>	

## 12.5. Results of PBT and vPvB assessment

### 2-Ethylhexan-1-ol, CAS: 104-76-7

#### PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

## 12.6. Other adverse effects

### 2-Ethylhexan-1-ol, CAS: 104-76-7

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Hazardous waste according to European Waste Catalogue (EWC)

#### Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

## SECTION 14: Transport information

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## Section 14.1 - 14.6

### ICAO-TI / IATA-DGR

Not restricted

### IMDG

Not restricted

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

Product name	Octanol
Ship type	2
Pollution category	Y

## SECTION 15: Regulatory information

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

#### Regulation 1272/2008, Annex VI

not listed\*\*\*

#### International Inventories

#### **2-Ethylhexan-1-ol, CAS: 104-76-7**

- AICS (AU)
- DSL (CA)
- IECSC (CN)
- EC-No. 2032343 (EU)
- ENCS (2)-217 (JP)
- ISHL (2)-217 (JP)
- KECI KE-13766 (KR)
- INSQ (MX)
- PICCS (PH)
- TSCA (US)
- NZIoC (NZ)
- TCSI (TW)

#### National regulatory information India

#### **Hazardous Chemicals, Schedule 2: Threshold Quantities at an Isolated Storage**

not listed

#### **Hazardous Chemicals, Schedule 3: Threshold Quantities in an Industrial Installation**

not listed

For details and further information please refer to the original regulation.

## SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

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H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H332: Harmful if inhaled.  
H335: May cause respiratory irritation.

## Abbreviations

A table of terms and abbreviations can be found under the following link:  
[http://echa.europa.eu/documents/10162/13632/information\\_requirements\\_r20\\_en.pdf](http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf)

## Training advice

For effective first-aid, special training / education is needed.

## Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

## Further information for the safety data sheet

Changes against the previous version are marked by \*\*\*. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage ([www.chemicals.oq.com](http://www.chemicals.oq.com)).

## Disclaimer

**For industrial use only.** The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

**End of Safety Data Sheet**