

# SAFETY DATA SHEET



n-Butyric acid

10460

Version / Revision

2.01

Revision Date

21-Jan-2019

Supersedes Version

2.00\*\*\*

Issuing date

21-Jan-2019

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

### 1.1. Product identifier

Identification of the substance/preparation

**n-Butyric acid**

CAS-No

107-92-6

EC No.

203-532-3

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

Use of the Substance / Preparation

Intermediate.

Uses advised against

None

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

Company/Undertaking Identification

**OXEA GmbH**  
Rheinpromenade 4A  
D-40789 Monheim  
Germany

Product Information

Product Stewardship  
FAX: +49 (0)208 693 2053  
email: psq@oxea-chemicals.com

### 1.4. Emergency telephone number

Emergency telephone number

+44 (0) 1235 239 670 (UK) available 24/7\*\*\*  
in USA, call 800 424 9300  
outside USA, call +1.703.527.3887, collect calls accepted available 24/7\*\*\*

## SECTION 2: Hazards identification

### Europe

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

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

Acute oral toxicity Category 4, H302\*\*\*

Skin corrosion/irritation Category 1B, H314\*\*\*

Serious eye damage/eye irritation Category 1, H318\*\*\*

#### Additional information

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

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## 2.2. Label elements

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

### Hazard pictograms



**Signal word**

**Danger**

**Hazard statements**

H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.

**Precautionary statements**

P233: Keep container tightly closed.  
P260: Do not breathe gas/mist/vapours.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER/doctor.

## 2.3. Other hazards

Vapours may form explosive mixture with air  
Components of the product may be absorbed into the body by inhalation

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

## USA

### 2.1. Classification of the substance or mixture

**This substance is classified in accordance with paragraph (d) of §1910.1200 (GHS-US classification).\*\*\***

Acute oral toxicity Category 4, H302\*\*\*  
Skin corrosion/irritation Category 1B, H314\*\*\*  
Serious eye damage/eye irritation Category 1, H318\*\*\*  
Flammable liquid Category 4, H227\*\*\*  
Environmental hazard Aquatic Acute 3; H402\*\*\*

**OSHA Specified Hazards** Not applicable.

### 2.2. Label elements

Labeling according to §1910.1200 (GHS-US labeling).\*\*\*

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Hazard symbol(s) \*\*\*



Signal word **Danger\*\*\***

Hazard statements  
H227: Combustible liquid  
H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H402: Harmful to aquatic life\*\*\*

Precautionary statements \*\*\*

Prevention  
P210: Keep away from flames and hot surfaces. - No smoking.  
P260: Do not breathe gas/mist/vapours.  
P264: Wash hands thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.\*\*\*

Response  
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER/doctor.  
P363: Wash contaminated clothing before reuse.\*\*\*

Storage  
P403 + P235: Store in a well ventilated place. Keep cool.  
P405: Store locked up.\*\*\*

Disposal  
P501: Dispose of contents/container in accordance with local regulation.\*\*\*

## 2.3. Other hazards

Vapours may form explosive mixture with air  
Components of the product may be absorbed into the body by inhalation\*\*\*

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

\*\*\*

Component	CAS-No	REACH-No	1272/2008/EC	Concentration (%)
Butyric acid	107-92-6	01-2119488986-11**	Acute Tox. 4; H302	> 99,5

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		*	Skin Corr. 1B; H314 Eye Dam. 1; H318***	
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## 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.

#### 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

nausea, vomiting, convulsions, shortness of breath, discomfort.

#### Special hazard

Lung irritation, Stomach perforation, Lung oedema, Methemoglobinemia.

### 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, flush stomach and compensate acidosis.

## 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

Vapours may form explosive mixture with air

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## 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

Keep people away from and upwind of fire. Cool containers / tanks with water spray. Water run-off and vapor cloud may be corrosive. Dike and collect water used to fight 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.

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## Incompatible products

bases  
amines  
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. Vapours may form explosive mixture with air.\*\*\*

### Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care.

### Suitable material

stainless steel, Polyethylene

### Unsuitable material

iron

### Temperature class

T2

## 7.3. Specific end use(s)

Intermediate under non-strictly controlled conditions  
Distribution of substance\*\*\*

# SECTION 8: Exposure controls / personal protection

## 8.1. Control parameters

### Exposure limits European Union

No exposure limits established.

### Exposure limits Germany

No exposure limits established.

### Exposure limits United States of America

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.

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## 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.

### 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.

### 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>	butyl-rubber
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,7 mm
<b>Break through time</b>	approx 480 min

<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

### Skin and body protection

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

### Respiratory protection

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Equipment should conform to NIOSH, EN or other applicable national standards.

### 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
<b>Colour</b>	colourless
<b>Odour</b>	foul smelling
<b>Odour threshold</b>	0,001 mg/m <sup>3</sup>
<b>pH</b>	2 (50 % in water @ 20 °C (68 °F))
<b>Melting point/range</b>	-7 °C (Pour point)
<b>Boiling point/range</b>	164 °C @ 1013 hPa***
<b>Flash point</b>	71 °C @ 1013 hPa***
<b>Method</b>	ISO 2719

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<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>	2 Vol %				
<b>Upper explosion limit</b>	10 Vol %				
<b>Vapour pressure</b>	***				
Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
1	0,1***	0,001***	20	68	DIN EN 13016-2***
9	0,9***	0,009***	50	122	DIN EN 13016-2***
<b>Vapour density</b>	3,0 (Air = 1) @ 20 °C (68 °F)				
<b>Relative density</b>	***				
Values	@ °C	@ °F	Method		
0,957	20	68	DIN 51757		
<b>Solubility</b>	miscible, in water, OECD 105***				
<b>log Pow</b>	1,1 (measured), OECD 117				
<b>Autoignition temperature</b>	435 °C				
<b>Method</b>	DIN 51794				
<b>Decomposition temperature</b>	No data available				
<b>Viscosity</b>	1,67 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>	88,11
<b>Molecular formula</b>	C4 H8 O2
<b>Refractive index</b>	1,398 @ 20 °C
<b>Surface tension</b>	68,5 mN/m (1 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

Vapours may form explosive mixture with air.

### 10.4. Conditions to avoid

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



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## 10.5. Incompatible materials

bases, amines, 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\*\*\*

<b>Acute toxicity</b>				
<b>Butyric acid (107-92-6)</b>				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	1630 mg/kg	rat, male/female	OECD 401
Dermal	LD50	6096 mg/kg	rabbit	OECD 402
Inhalative	LC0	5,1 mg/l (4h)	rat, male/female	OECD 403

#### **Butyric acid, CAS: 107-92-6**

##### **Assessment**

The available data lead to the classification given in section 2\*\*\*

<b>Irritation and corrosion</b>				
<b>Butyric acid (107-92-6)</b>				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	corrosive	OECD 404	1h
Eyes	rabbit	corrosive		

#### **Butyric acid, CAS: 107-92-6**

##### **Assessment**

The available data lead to the classification given in section 2

For respiratory irritation, no data are available\*\*\*

#### **Butyric acid, CAS: 107-92-6**

##### **Assessment**

Skin sensitization was not tested due to the corrosive properties of the substance

For respiratory sensitization, no data are available\*\*\*

<b>Subacute, subchronic and prolonged toxicity</b>				
<b>Butyric acid (107-92-6)</b>				
Type	Dose	Species	Method	
Subchronic toxicity***	NOAEC: 500 ppm/d (13 weeks)***	rat***	Inhalation EPA OTS 798.2450***	read across***

#### **Butyric acid, CAS: 107-92-6**

##### **Assessment**

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

STOT RE\*\*\*

<b>Carcinogenicity, Mutagenicity, Reproductive toxicity</b>				
<b>Butyric acid (107-92-6)</b>				

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Type	Dose	Species	Evaluation	Method	
Mutagenicity		CHL	negative	OECD 473 (Chromosomal Aberration)	In vitro study
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	
Mutagenicity		mouse	negative	OECD 474	read across in vivo***
Developmental Toxicity	LOAEC: 1500 ppm	rat		OECD 414, Inhalative	read across
Developmental Toxicity	NOAEC: 1500 ppm	rabbit		OECD 414, Inhalative	read across
Reproductive toxicity	NOAEC: 2000 ppm***	rat, male/female		OECD 416	read across
Mutagenicity		CHO (Chinese Hamster Ovary) cells	negative	OECD 476 (Mammalian Gene Mutation)	

## **Butyric acid, CAS: 107-92-6**

### **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**

In vitro tests did not show mutagenic effects

Did not show mutagenic effects in animal experiments

In the absence of specific alerts no cancer testing is required\*\*\*

## **Butyric acid, CAS: 107-92-6**

### **Main symptoms**

nausea, vomiting, convulsions, shortness of breath.

### **Target Organ Systemic Toxicant - Single exposure**

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

STOT SE\*\*\*

### **Target Organ Systemic Toxicant - Repeated exposure**

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

STOT RE\*\*\*

### **Aspiration toxicity**

Due to the viscosity, this product does not present an aspiration hazard\*\*\*

### **Other adverse effects**

Components of the product may be absorbed into the body by inhalation.

### **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**

#### **Butyric acid (107-92-6)**

Species	Exposure time	Dose	Method
Daphnia magna (Water flea)	48h	EC50: 51,25 mg/l	read across DIN 38412,

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			part 11***
Desmodemus subspicatus	72h	EC50: 45,1 mg/l	read across DIN 38412, part 9***
Pimephales promelas (fathead minnow)	96h	LC50: 66,4 mg/l	read across OECD 203***
Pseudomonas putida	18 h	EC50: 78 mg/l (Growth inhibition)	DIN 38412, part 8

## 12.2. Persistence and degradability

**Butyric acid, CAS: 107-92-6**

### Biodegradation

100 % (14 d), Sewage, aerobic, OECD 301 E.

### Abiotic Degradation

#### Butyric acid (107-92-6)

Type	Result	Method
Hydrolysis***	not expected***	
Photolysis***	No data available***	

## 12.3. Bioaccumulative potential

#### Butyric acid (107-92-6)

Type	Result	Method
log Pow***	1,1***	measured, OECD 117***
log BCF***	0,5***	calculated***

## 12.4. Mobility in soil

#### Butyric acid (107-92-6)

Type	Result	Method
Surface tension***	68,5 mN/m (1 g/l @ 20°C (68°F))***	OECD 115***
Adsorption/Desorption***	log Koc: 1,69 log Koc: 1,69 @ pH 7***	calculated***
Distribution to environmental compartments***	Air: 6,16 % Soil: 57,1 % Water: 36,7 % Sediment: 0,07 %***	calculated Fugacity Model Level III***

## 12.5. Results of PBT and vPvB assessment

**Butyric acid, CAS: 107-92-6**

### 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

**Butyric acid, CAS: 107-92-6**

No data available\*\*\*

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## 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

### ICAO-TI / IATA-DGR

	***
14.1. UN number	*** UN 2820
14.2. UN proper shipping name	*** Butyric acid***
14.3. Transport hazard class(es)	*** 8
14.4. Packing group	*** III
14.5. Environmental hazards	no***
14.6. Special precautions for user	no data available***

### IMDG

	***
14.1. UN number	*** UN 2820
14.2. UN proper shipping name	*** Butyric acid***
14.3. Transport hazard class(es)	*** 8
14.4. Packing group	*** III
14.5. Environmental hazards	no***
14.6. Special precautions for user	***
EmS	F-A, S-B
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	***
Product name	Butyric acid
Ship type	3
Pollution category	Y

### ADR/RID

	***
14.1. UN number	*** UN 2820
14.2. UN proper shipping name	*** Butyric acid
14.3. Transport hazard class(es)	*** 8
14.4. Packing group	*** III

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**14.5. Environmental hazards** no\*\*\*  
**14.6. Special precautions for user** \*\*\*  
ADR Tunnel restriction code (E)  
Classification Code C3  
Hazard Number 80

## SECTION 15: Regulatory information

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

#### Regulation 1272/2008, Annex VI

##### Butyric acid, CAS: 107-92-6

**Classification** Skin Corr. 1B; H314  
**Hazard pictograms** GHS05 Corrosion\*\*\*  
**Signal word** Danger  
**Hazard statements** H314

##### DI 2012/18/EU (Seveso III) \*\*\*

**Category** not subject\*\*\*

##### DI 1999/13/EC (VOC Guideline)

\*\*\*

Component	Status
Butyric acid CAS: 107-92-6	regulated***

#### International Inventories

##### **Butyric acid, CAS: 107-92-6**

AICS (AU)\*\*\*  
DSL (CA)\*\*\*  
IECSC (CN)\*\*\*  
EC-No. 2035323 (EU)\*\*\*  
ENCS (2)-608 (JP)\*\*\*  
ISHL (2)-608 (JP)\*\*\*  
KECI KE-03838 (KR)\*\*\*  
INSQ (MX)\*\*\*  
PICCS (PH)\*\*\*  
TSCA (US)\*\*\*  
NZIoC (NZ)\*\*\*  
TCSI (TW)\*\*\*

## SECTION 16: Other information

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

H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H318: Causes serious eye damage.\*\*\*

### **Abbreviations**

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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 Oxea 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 Oxea homepage ([www.oxea-chemicals.com](http://www.oxea-chemicals.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. Oxea 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**