

# Safety data sheet

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BASF Safety data sheet according to the United Nations' Globally Harmonized System (UN GHS)

Date / Revised: 12.03.2024

Version: 5.0

Product: **2-Octyl Acrylate**

(ID no. 30786092/SDS\_GEN\_00/EN)

Date of print 31.05.2024

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## 1. Identification

### Product identifier

## 2-Octyl Acrylate

Chemical name: 1-Methylheptyl acrylate

INDEX-Number: 607-133-00-9

CAS Number: 42928-85-8

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

Relevant identified uses: Monomer.

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

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Petrochemicals

Telephone: +49 621 60-42151

E-mail address: sds-petrochemicals@basf.com

### Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## 2. Hazards Identification

## Classification of the substance or mixture

### According to UN GHS criteria

Flam. Liq. 4  
Skin Sens. 1B  
Aquatic Acute 3  
Aquatic Chronic 3

For the classifications not written out in full in this section the full text can be found in section 16.

## Label elements

### Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Warning

Hazard Statement:

H227	Combustible liquid.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P261	Avoid breathing mist or vapour or spray.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use water spray, dry powder or carbon dioxide for extinction.

Precautionary Statements (Storage):

P403	Store in a well-ventilated place.
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Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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**Other hazards**According to UN GHS criteria

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

See section 12 - Results of PBT and vPvB assessment.

**3. Composition/Information on Ingredients****Substances**Chemical nature

2-Propenoic acid, 1-methylheptyl ester  
CAS Number: 42928-85-8

Hazardous ingredients (GHS)

According to UN GHS criteria

2-Propenoic acid, 1-methylheptyl ester

Content (W/W): $\geq 98\%$ - $\leq 100\%$	Flam. Liq. 4
%	Skin Sens. 1B
CAS Number: 42928-85-8	Aquatic Acute 3
	Aquatic Chronic 3
	H227, H317, H402, H412

Octan-2-ol

Content (W/W): $\geq 0\%$ - $\leq 0,4\%$	Flam. Liq. 4
CAS Number: 123-96-6	Eye Dam. 1
EC-Number: 204-667-0	Aquatic Acute 3
	H227, H318, H402

For the classifications not written out in full in this section the full text can be found in section 16.

**Mixtures**

Not applicable

**4. First-Aid Measures****Description of first aid measures**

Remove contaminated clothing.

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If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## **5. Fire-Fighting Measures**

### **Extinguishing media**

Suitable extinguishing media:

dry powder, water spray, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:

water jet

Additional information:

Use extinguishing measures to suit surroundings.

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

Risk of violent self-polymerization if overheated in a container. Cool endangered containers with water-spray.

The product is combustible. See SDS section 7 - Handling and storage.

### **Advice for fire-fighters**

Special protective equipment:

Wear a self-contained breathing apparatus. Special protective equipment for firefighters

**Further information:**

Extend fire extinguishing measures to the surroundings. Fight fire from maximum distance. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

In case of a fire in the vicinity a restabilization system should be used if the temperature in the bulk storage-tank reaches 45°C. Evacuate area of all unnecessary personnel. In case of a fire in the vicinity evacuate all personnel in a greater area if the temperature in the bulk storage-tank reaches 60°C.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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## 6. Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

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

Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

### **Environmental precautions**

Discharge into the environment must be avoided.

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

For large amounts: Pump off product.

Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations. Ensure adequate ventilation. Suppress gases/vapours/mists with water spray jet. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Cleaning operations should be carried out only while wearing breathing apparatus. Pick up with suitable appliance and dispose of.

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## 7. Handling and Storage

### **Precautions for safe handling**

The substance/ product may be handled only by appropriately trained personnel. Facility parts must be checked for polymer residues and cleaned on regular basis in order to avoid hazardous reactions.

Ensure thorough ventilation of stores and work areas. Encapsulation or exhaust ventilation required. When filling, transferring, or emptying of containers, adequate local exhaust ventilation is necessary. Vent waste air to atmosphere only through suitable separators. Check the condition of seals and connector screw threads.

The temperatures which must be avoided are to be considered. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

Ensure adequate inhibitor and dissolved oxygen level.

Avoid inhalation of dusts/mists/vapours. Avoid aerosol formation. Avoid all direct contact with the substance/product.

Protection against fire and explosion:

Avoid all sources of ignition: heat, sparks, open flame. Substance/product can form explosive mixture with air. Ground all transfer equipment properly to prevent electrostatic discharge. It is recommended that all conductive parts of the machinery are grounded. Explosion-proof equipment is not necessary when loading and processing of the product takes place at a minimum of 5 °C below the flash point.

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity.

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

Further information on storage conditions: Prior to storage ensure that the transfer equipment used and the intended storage containers do not contain other substances/products. Before transfer to stock the identity of the product must be proved to be without doubt. The entrance to storage rooms is to be granted only to appropriately trained personnel.

The stabilizer is only effective in the presence of oxygen. Maintain contact with atmosphere containing 5 - 21% oxygen. Never use tanks with inert-gas installation for storage.

Risk of polymerization. Protect against heat. Protect from direct sunlight. Avoid UV-light and other radiation with high energy. Protect against contamination.

In case of bulk storage, the storage-tanks should at least be equipped with two high temperature alert devices.

Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Storage stability:

Storage temperature: < 35 °C

Storage duration: 12 Months

The stated storage temperature should be noted.

Avoid prolonged storage.

This product should be processed as soon as possible.

Ensure adequate inhibitor and dissolved oxygen level.

Do not store with less than 10 % headspace above liquid.

Storage stability is based upon ambient temperatures and conditions described.

It is recommended to keep a safe distance of +2 degrees above the crystallization range.

The product is stabilized, the shelf life should be noted.

Storage temperature: 45 °C

A restabilization system should be used if the temperature in the bulk storage-tank reaches the indicated value.

Storage temperature: 60 °C

All personnel in a greater area should be evacuated if the temperature in the bulk storage-tank reaches the indicated value.

### **Specific end use(s)**

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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## 8. Exposure Controls/Personal Protection

### Control parameters

#### Components with occupational exposure limits

123-96-6: Octan-2-ol

### Exposure controls

#### Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):

butyl rubber (butyl) - 0.7 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

#### General safety and hygiene measures

Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice.

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## 9. Physical and Chemical Properties

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

State of matter:	liquid
Form:	liquid
Colour:	colourless
Odour:	ester-like
Odour threshold:	not determined

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Melting temperature:	< -20 °C (1.013 hPa) Study does not need to be conducted.	
Freezing point:	< -78 °C (1.013 hPa) none	(measured)
Boiling point:	202,1 °C (1.013 hPa) The substance / product decomposes.	(OECD Guideline 103)
Flammability:	Combustible liquid.	(derived from flash point)
Lower explosion limit:	The lower explosion point may be 5 - 15 °C below the flash point., For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Flash point:	86,5 °C	(ISO 2719)
Auto-ignition temperature:	241 °C	(DIN EN ISO/IEC 80079-20-1)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	
pH value:	6,8 (13,35 mg/l, 20,12 °C)	(OECD Guideline 105)
Viscosity, kinematic:	2,11 mm <sup>2</sup> /s (23 °C)	
Viscosity, dynamic:	No data available.	
Thixotropy:	not thixotropic	
Solubility in water:	13,35 mg/l (20,12 °C, pH 6,8)	(OECD Guideline 105)
Partitioning coefficient n-octanol/water (log Kow):	4,68 (25 °C)	(OECD Guideline 117)
Vapour pressure:	0,01 mbar (20 °C) dynamic	(OECD Guideline 104)
	0,73 mbar (50 °C) dynamic	(OECD Guideline 104)
Relative density:	0,873 (20,4 °C)	(OECD Guideline 109)
Density:	0,878 g/cm <sup>3</sup> (15 °C) 0,871 g/cm <sup>3</sup> (23 °C) 0,848 g/cm <sup>3</sup> (50 °C)	
Relative vapour density (air):	6,35 (20 °C) Heavier than air.	(calculated)

Particle characteristics



Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

## 9.2. Other information

### Information with regard to physical hazard classes

#### Explosives

Explosion hazard: Based on the chemical structure there is no indication of explosive properties.

#### Oxidizing properties

Fire promoting properties: Based on its structural properties the product is not classified as oxidizing.

#### Pyrophoric properties

Self-ignition temperature: Test type: Spontaneous self-ignition at room-temperature.

Based on its structural properties the product is not classified as self-igniting.

#### Self-heating substances and mixtures

Self heating ability: not applicable, the product is a liquid

#### Substances and mixtures, which emit flammable gases in contact with water

Formation of flammable gases:

Forms no flammable gases in the presence of water.

#### Corrosion to metals

Corrosive effects to metal are not anticipated.

### Other safety characteristics

Radioactivity:

not radioactive for transport purposes

Hygroscopy: Non-hygroscopic

Surface tension:

Based on chemical structure, surface activity is not to be expected.

Molar mass:

184,28 g/mol

SAPT-Temperature:

According to SP386 it is ensured that the level of chemical stabilization is sufficient to prevent dangerous polymerization during total duration of carriage. - This information is valid for the recently stabilized product.

Evaporation rate:

Value can be approximated from Henry's Law Constant or vapor pressure.

## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

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Corrosion to metals:	Corrosive effects to metal are not anticipated.	
Reactions with water/air:	Reaction with:	water
	Flammable gases:	no
	Toxic gases:	no
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized. Formation of explosive gas/air mixtures.

Polymerization coupled with heat formation.

Risk of spontaneous polymerization by oxygen depletion of the liquid phase. Risk of spontaneous polymerization when heated or in the presence of UV radiation. Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.

Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Reacts with nitric acid. Risk of spontaneous polymerization in the presence of oxidizing agents.

Hazardous reactions in presence of mentioned substances to avoid.

The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated.

### Conditions to avoid

Avoid heat. Avoid oxygen content above the product of less than 5 %. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures. Avoid all sources of ignition: heat, sparks, open flame. Avoid freezing. Avoid moisture.

### Incompatible materials

Substances to avoid:

radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, perborates, azides, ether, ketones, aldehydes, amines, nitrates, nitrites, oxidizing agents, reducing agents, strong bases, alkaline reactive substances, acid anhydrides, acid chlorides, concentrated mineral acids, metal salts  
Inert gas

### Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion.

Experimental/calculated data:

LD50 rat (oral):  $\geq 2.000$  mg/kg (OECD Guideline 423)

No mortality was observed.

(by inhalation): No data available.

(dermal): No data available.

#### Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes. The European Union (EU) has classified the substance as "irritating to skin and eyes".

Experimental/calculated data:

Skin corrosion/irritation In vitro assay: non-irritant non-irritant (OECD Guideline 439)

Serious eye damage/irritation In vitro assay: non-irritant (OECD Guideline 437)

#### Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: skin sensitizing (similar to OECD guideline 429)

#### Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria.

#### Carcinogenicity

Assessment of carcinogenicity:

No data available.

#### Reproductive toxicity

Assessment of reproduction toxicity:

The chemical structure does not suggest a specific alert for such an effect.

### Developmental toxicity

#### Assessment of teratogenicity:

The chemical structure does not suggest a specific alert for such an effect.

### Specific target organ toxicity (single exposure)

#### Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure. The European Union (EU) has classified the substance as "causing irritation of the respiratory tract"

### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

#### Assessment of repeated dose toxicity:

No data available.

### Aspiration hazard

not applicable

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## 12. Ecological Information

### Toxicity

#### Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. Toxic to aquatic life with long lasting effects.

EU-classification

#### Toxicity to fish:

No data available.

#### Aquatic invertebrates:

EC50 (48 h) > 13 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Toxic effects occur within the range of solubility.

#### Aquatic plants:

EC50 (72 h) > 13 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

Toxic effects occur within the range of solubility.

#### Microorganisms/Effect on activated sludge:

No data available.

#### Chronic toxicity to fish:

No data available.

#### Chronic toxicity to aquatic invertebrates:

No data available.

#### Assessment of terrestrial toxicity:

No data available.

Soil living organisms:

No data available.

Terrestrial plants:

No data available.

Other terrestrial non-mammals:

No data available.

### **Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Not readily biodegradable (by OECD criteria).

Elimination information:

41,77 % BOD of the ThOD (28 d) (OECD 301D; 92/69/EWG, C.4-E) (aerobic, activated sludge, domestic, non-adapted) Not readily biodegradable (by OECD criteria).

Assessment of stability in water:

In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis):

t<sub>1/2</sub> 93,67 h (15 °C), (OECD Guideline 111, pH 7)

### **Bioaccumulative potential**

Assessment bioaccumulation potential:

No data available.

Bioaccumulation potential:

No data available.

### **Mobility in soil**

Assessment transport between environmental compartments:

Volatility: No data available.

Adsorption in soil: No data available.

### **Results of PBT and vPvB assessment**

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria. Self classification

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Not fulfilling vPvB (very persistent/very bioaccumulative) criteria. Self classification

### **Other adverse effects**

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

### Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

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## 13. Disposal Considerations

### Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging:

Uncleaned empties should be disposed of in the same manner as the contents.

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## 14. Transport Information

### Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

### Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable

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Transport hazard class(es): Not applicable  
Packing group: Not applicable  
Environmental hazards: Not applicable  
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

**Sea transport**

IMDG

Not classified as a dangerous good under transport regulations  
UN number or ID number: Not applicable  
UN proper shipping name: Not applicable  
Transport hazard class(es): Not applicable  
Packing group: Not applicable  
Environmental hazards: Not applicable  
Special precautions for user: None known

**Air transport**

IATA/ICAO

Not classified as a dangerous good under transport regulations  
UN number or ID number: Not applicable  
UN proper shipping name: Not applicable  
Transport hazard class(es): Not applicable  
Packing group: Not applicable  
Environmental hazards: Not applicable  
Special precautions for user: None known

**Maritime transport in bulk according to IMO instruments**

Maritime transport in bulk is not intended.

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## 15. Regulatory Information

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

Not applicable

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## 16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

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Flam. Liq.	Flammable liquids
Skin Sens.	Skin sensitization
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Eye Dam.	Serious eye damage
H227	Combustible liquid.
H317	May cause an allergic skin reaction.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
H318	Causes serious eye damage.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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Vertical lines in the left hand margin indicate an amendment from the previous version.