SECTION 1: Identification

1.1. Product identifier
Identification of the substance/preparation  
**Isobutyric acid**

CAS-No 79-31-2

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

Supplier  
OXEA Corporation  
15375 Memorial Drive  
West Memorial Place I  
Suite 300  
Houston, TX 77079  
USA  
Phone +1 346 378 7300

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

1.4. Emergency telephone number

Emergency telephone number  
in USA, call 800 424 9300  
outside USA, call +1.703.527.3887, collect calls accepted  
available 24/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

- Acute dermal toxicity  Category 3, H311
- Skin corrosion/irritation  Category 1B, H314
- Serious eye damage/eye irritation  Category 1, H318
- Flammable liquid  Category 3, H226
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Environmental hazard  Aquatic Acute 3; H402

OSHA Specified Hazards  Not applicable.

2.2. Label elements

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

Hazard symbol(s)

Signal word  Danger

Hazard statements  
H226: Flammable liquid and vapor.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H402: Harmful to aquatic life

Precautionary statements

Prevention
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ lighting equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P260: Do not breathe gas/mist/vapours.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.

Response
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P361: Take off immediately all contaminated clothing and wash it before reuse.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER/doctor.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Emergency telephone number  in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted
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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, ingestion and through the skin

SECTION 3: Composition / information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutyric acid</td>
<td>79-31-2</td>
<td>&gt; 99,5</td>
</tr>
</tbody>
</table>

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.

Skin
Wash off immediately with soap and plenty of water. 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.

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, abdominal pain, vomiting, shortness of breath, unconsciousness, discomfort.

Special hazard
Lung irritation, Lung oedema, Stomach perforation.

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.

Emergency telephone number
in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted
3 / 14 USA (A-US)
SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
foam, dry chemical, carbon dioxide (CO2), 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 (CO2)
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

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. Water run-off and vapor cloud may be corrosive. Dike and collect water used to fight fire. Keep people away from and 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
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. Keep at temperatures between -18 and 38 °C (0 and 100 °F).

Suitable material
stainless steel, Polyethylene

Unsuitable material
iron

SECTION 8: Exposure controls / personal protection

8.1. Control parameters
Exposure limits United States of America

No exposure limits established regarding ACGIH, OSHA Z-1 and OSHA Z-2.

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.

Individual protection measures, such as 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.

<table>
<thead>
<tr>
<th>Suitable material</th>
<th>butyl-rubber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>according to EN 374: level 6</td>
</tr>
<tr>
<td>Glove thickness</td>
<td>approx 0.7 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>approx 480 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suitable material</th>
<th>nitrile rubber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>according to EN 374: level 6</td>
</tr>
<tr>
<td>Glove thickness</td>
<td>approx 0.55 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>&gt; 480 min</td>
</tr>
</tbody>
</table>

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 (vapor or mist). Equipment should conform to NIOSH.

Environmental exposure controls
Use product only in closed system. 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

- **Appearance**: liquid
- **Colour**: colourless
- **Odour**: pungent
- **Odour threshold**: 8,1 ppm
- **pH**: 2,3  (50 % in water @ 25 °C (77 °F))
- **Melting point/range**: -83 °F (-64 °C) (Pour point)
- **Boiling point/range**: 313 °F (156 °C) @ 1 atm (101,3 kPa)
- **Flash point**: 133 - 144 °F (56 - 62 °C)
  - **Method**: ISO 2719
- **Evaporation rate**: No data available
- **Flammability (solid, gas)**: Does not apply, the substance is a liquid
- **Lower explosion limit**: 1,6 Vol %
- **Upper explosion limit**: 7,3 Vol %

<table>
<thead>
<tr>
<th>Vapour pressure</th>
<th>Values [hPa]</th>
<th>Values [kPa]</th>
<th>Values [atm]</th>
<th>@ °C</th>
<th>@ °F</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0,2</td>
<td>0,002</td>
<td>20</td>
<td>68</td>
<td></td>
<td>DIN EN 13016-2</td>
</tr>
<tr>
<td>13</td>
<td>1,3</td>
<td>0,013</td>
<td>50</td>
<td>122</td>
<td></td>
<td>DIN EN 13016-2</td>
</tr>
</tbody>
</table>

- **Vapour density**: 3,0 (Air = 1) @ 20 °C (68 °F)
- **Relative density**: 0,948 @ 20 °C, 68 °F DIN 51757
- **Solubility**: 618 g/l @ 68 °F (20 °C), in water, OECD 105
- **log Pow**: 1,1 (measured) OECD 117
- **Autoignition temperature**: 851 °F (455 °C)
  - **Method**: DIN 51794
- **Decomposition temperature**: No data available
- **Viscosity**: 1,32 mPa*s @ 68 °F (20 °C)
  - **Method**: DIN 51562, dynamic

9.2. Other information

- **Molecular weight**: 88,10
- **Molecular formula**: C4H8O2
- **Oxidizing properties**: Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties
- **Refractive Index**: 1,393 @ 68 °F (20 °C)
- **Explosive properties**: Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties
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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.

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  Inhalation, Eye contact, Skin contact, Ingestion

Isobutyric acid, CAS: 79-31-2
Main symptoms
cough, abdominal pain, vomiting, shortness of breath, unconsciousness, discomfort.

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

Acute toxicity
Isobutyric acid (79-31-2)
Routes of Exposure  Endpoint  Values  Species  Method

Emergency telephone number
in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted
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### Oral

| LD50 | 2230 mg/kg | rat, male/female | OECD 401 |

### Dermal

| LD50 | 474 mg/kg (24 h) | rabbit | OECD 402 |

### Inhalative

| LC0 | 9.59 mg/l (8 h) | rat, male/female | OECD 403 |

### Isobutyric acid, CAS: 79-31-2

**Assessment**
The available data lead to the classification given in section 2  
Based on available data, the classification criteria are not met for:  
Acute oral toxicity  
Acute inhalation toxicity

### Irritation and corrosion

**Isobutyric acid (79-31-2)**

<table>
<thead>
<tr>
<th>Target Organ Effects</th>
<th>Species</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>rabbit</td>
<td>corrosive</td>
<td>OECD 404</td>
</tr>
<tr>
<td>Eyes</td>
<td>rabbit</td>
<td>corrosive</td>
<td></td>
</tr>
</tbody>
</table>

### Isobutyric acid, CAS: 79-31-2

**Assessment**
The available data lead to the classification given in section 2  
For respiratory irritation, no data are available

### Isobutyric acid, CAS: 79-31-2

**Assessment**
Based on available data, the classification criteria are not met for:  
Skin sensitization  
For respiratory sensitization, no data are available

### Subacute, subchronic and prolonged toxicity

**Isobutyric acid (79-31-2)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Dose</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subchronic</td>
<td>NOAEL: 375 mg/kg/d (90d)</td>
<td>rat, male/female</td>
<td>OECD 408 Oral</td>
</tr>
<tr>
<td></td>
<td>NOAEL: 2500 ppm</td>
<td>rat, male/female</td>
<td>OECD 413 Inhalation</td>
</tr>
</tbody>
</table>

### Isobutyric acid, CAS: 79-31-2

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

**STOT RE**

### Carcinogenicity, Mutagenicity, Reproductive toxicity

**Isobutyric acid (79-31-2)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Dose</th>
<th>Species</th>
<th>Evaluation</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>CHO (Chinese Hamster Ovary) cells</td>
<td>negative</td>
<td>OECD 476 (Mammalian Gene Mutation)</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>Salmonella typhimurium</td>
<td>negative</td>
<td>OECD 471 (Ames)</td>
</tr>
</tbody>
</table>
| Mutagenicity  |                    | mouse                    | negative   | OECD 474                                   | read across in

---

**Emergency telephone number**
in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted
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Reproductive toxicity
NOAEC: 2500 ppm rat EPA OPPTS 870.3800 read across

Developmental Toxicity
NOEC 11,9 mg/m³ rat OECD 414, Inhalative read across

Developmental Toxicity
NOEC 2,8 mg/m³ rabbit Maternal toxicity OECD 414, Inhalative read across

Developmental Toxicity
NOEC 2,8 mg/m³ rabbit Fetal toxicity, Embryotoxicity OECD 414, Inhalative read across

Developmental Toxicity
NOEC 11,9 mg/m³ rabbit Teratogenicity OECD 414, Inhalative read across

Isobutyric acid, CAS: 79-31-2

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

Isobutyric acid, CAS: 79-31-2

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, 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:

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity
Isobutyric acid (79-31-2)

<table>
<thead>
<tr>
<th>Species</th>
<th>Exposure time</th>
<th>Dose</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daphnia magna (Water flea)</td>
<td>48h</td>
<td>EC50: 51,25 mg/l</td>
<td>DIN 38412, part 11</td>
</tr>
<tr>
<td>Desmodesmus subspicatus</td>
<td>72h</td>
<td>EC50: 45,1 mg/l (Biomass)</td>
<td>DIN 38412, part 9</td>
</tr>
<tr>
<td>Leuciscus idus (Golden orfe)</td>
<td>96h</td>
<td>LC50: 146,6 mg/l</td>
<td>DIN 38412, part 15</td>
</tr>
<tr>
<td>Tetrahymena pyriformis</td>
<td>40 h</td>
<td>IC50: 190 mg/l (Growth inhibition)</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Isobutyric acid, CAS: 79-31-2

Biodegradation

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> 95 % (10 d), activated sludge, non-adapted, aerobic, OECD 302 B (Zahn-Wellens Test).

### Abiotic Degradation
**Isobutyric acid (79-31-2)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrolysis</td>
<td>not expected</td>
<td></td>
</tr>
<tr>
<td>Photolysis</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

**Isobutyric acid (79-31-2)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>log Pow</td>
<td>1,1</td>
<td>measured, OECD 117</td>
</tr>
<tr>
<td>log BCF</td>
<td>0,5</td>
<td>calculated</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

**Isobutyric acid (79-31-2)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>70,2  mN/m (1 g/l @ 20°C (68°F))</td>
<td>OECD 115</td>
</tr>
<tr>
<td>Adsorption/Desorption</td>
<td>log Koc: 1,65</td>
<td>calculated</td>
</tr>
<tr>
<td>Distribution to environmental compartments</td>
<td>Air: 7,39 % Soil: 55 % Water: 37,5 % Sediment: 0,07 %</td>
<td>calculated Fugacity Model Level III</td>
</tr>
</tbody>
</table>

### 12.5. Results of PBT and vPvB assessment

**Isobutyric acid, CAS: 79-31-2**

**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

**Isobutyric acid, CAS: 79-31-2**

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.

**Emergency telephone number**

in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted

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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

D.O.T. (49CFR)

14.1. UN number UN 2529
14.2. UN proper shipping name Isobutyric acid
14.3. Transport hazard class(es) 3
   Subsidiary Risk 8
14.4. Packing group III
14.5. Environmental hazards no
14.6. Special precautions for user Reportable Quantity (RQ) 5000 lb / 2270 kg (iso-Butyric acid)
   Emergency Response Guide 132

ICAO-TI / IATA-DGR

14.1. UN number UN 2529
14.2. UN proper shipping name Isobutyric acid
14.3. Transport hazard class(es) 3
   Subsidiary Risk 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 2529
14.2. UN proper shipping name Isobutyric acid
14.3. Transport hazard class(es) 3
   Subsidiary Risk 8
14.4. Packing group III
14.5. Environmental hazards no
14.6. Special precautions for user EmS F-E, S-C
14.7. Transport in bulk according to Annex II not applicable
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of MARPOL and the IBC Code

SECTION 15: Regulatory information

Federal and State Regulations
Components of the product are listed in the quoted regulations. For details please refer to the regulations directly. This list is not exhaustive, please check for other applicable regulations.

Federal Regulations
This product is listed on the TSCA inventory

Isobutyric acid, CAS: 79-31-2
CERCLA Hazardous Substance
    CERCLA RQ 5000 LBS

State Regulations
Isobutyric acid, CAS: 79-31-2
    IL Chemical Safety Act
    MA Hazardous Substances List
    MA RTK List
    NJ RTK List
    NY Hazardous Substances List
    NY RTK List
    PA RTK List
    RI RTK List

International Inventories
Isobutyric acid, CAS: 79-31-2
    AICS (AU)
    DSL (CA)
    IECSC (CN)
    EC-No. 2011957 (EU)
    ENCS (2)-608 (JP)
    ISHL (2)-608 (JP)
    KECI KE-24875 (KR)
    INSQ (MX)
    PICCS (PH)
    TSCA (US)
    NZIoC (NZ)
    TCSI (TW)

SECTION 16: Other information

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Issuing date 11-Dec-2019
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Hazard Rating Systems

NFPA (National Fire Protection Association)
  Health Hazard  3
  Fire Hazard  2
  Reactivity  0

HMIS (Hazardous Material Information System)
  Health Hazard  3
  Flammability  2
  Physical Hazard  0

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).
The use of a comma in section 3 and section 7 to 12 is the same as a period.

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