**SAFETY DATA SHEET**

**Isobutyric acid**

<table>
<thead>
<tr>
<th>Version / Revision</th>
<th>2.01</th>
<th>Revision Date</th>
<th>31-Jan-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supersedes Version</td>
<td>2.00***</td>
<td>Issuing date</td>
<td>31-Jan-2019</td>
</tr>
</tbody>
</table>

---

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

1.1. **Product identifier**

<table>
<thead>
<tr>
<th>Identification of the substance/preparation</th>
<th>Isobutyric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No</td>
<td>79-31-2</td>
</tr>
<tr>
<td>EC No.</td>
<td>201-195-7</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Use of the Substance / Preparation</th>
<th>Intermediate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses advised against</td>
<td>None</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Company/Undertaking Identification</th>
<th>OXEA GmbH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rheinpromenade 4A</td>
</tr>
<tr>
<td></td>
<td>D-40789 Monheim</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAX: +49 (0)208 693 2053</td>
</tr>
<tr>
<td>email: <a href="mailto:psq@oxea-chemicals.com">psq@oxea-chemicals.com</a></td>
</tr>
</tbody>
</table>

1.4. **Emergency telephone number**

<table>
<thead>
<tr>
<th>Emergency telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>+44 (0) 1235 239 670 (UK) available 24/7***</td>
</tr>
<tr>
<td>in USA, call 800 424 9300</td>
</tr>
<tr>
<td>outside USA, call +1.703.527.3887, collect calls accepted</td>
</tr>
</tbody>
</table>

---

**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)

- Flammable liquid Category 3, H226***
- Acute oral toxicity Category 4, H302***
- Acute dermal toxicity Category 3, H311***
- 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.***

2.2. Label elements

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

**Hazard pictograms**

- Signal word: Danger
- Hazard statements:
  - H226: Flammable liquid and vapour.
  - H302: Harmful if swallowed.
  - H311: Toxic in contact with skin.
  - H314: Causes severe skin burns and eye damage.
- Precautionary statements:
  - 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.
  - 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.

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.

**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 dermal toxicity  Category 3, H311***
- Skin corrosion/irritation  Category 1B, H314***
- Serious eye damage/eye irritation  Category 1, H318***
- Flammable liquid  Category 3, H226***
- 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.***

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>REACh-No</th>
<th>1272/2008/EC</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutyric acid</td>
<td>79-31-2</td>
<td>01-2119488973-18**</td>
<td>*</td>
<td>&gt; 99,5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>REACh-No</th>
<th>1272/2008/EC</th>
<th>Concentration (%)</th>
</tr>
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<tbody>
<tr>
<td>Isobutyric acid</td>
<td>79-31-2</td>
<td>01-2119488973-18**</td>
<td>*</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.

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, 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.

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

Temperature class
T1

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
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.

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>Evaluation</th>
<th>Glove thickness</th>
<th>Break through time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrile rubber</td>
<td>according to EN 374: level 6</td>
<td>approx 0.55 mm</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 (dust). Equipment should conform to NIOSH, EN or other applicable national standards.

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
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>pungent</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>8,1 ppm</td>
</tr>
<tr>
<td>pH</td>
<td>2,3 (50 % in water @ 25 °C (77 °F))</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>-64 °C (Pour point)</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>156 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>56 - 62 °C</td>
</tr>
<tr>
<td>Method</td>
<td>ISO 2719</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Does not apply, the substance is a liquid</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1,6 Vol %</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>7,3 Vol %</td>
</tr>
</tbody>
</table>

### Vapour pressure

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0,2***</td>
<td>0,002***</td>
<td>20 @ °C 68</td>
<td>DIN EN 13016-2***</td>
</tr>
<tr>
<td>13</td>
<td>1,3***</td>
<td>0,013***</td>
<td>50 @ °C 122</td>
<td>DIN EN 13016-2***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Values</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,948</td>
<td>DIN 51757</td>
</tr>
</tbody>
</table>

### Solubility

618 g/l @ 20 °C, in water, OECD 105***

### log Pow

1,1 (measured), OECD 117

### Autoignition temperature

455 °C

### Decomposition temperature

No data available

### Viscosity

1,32 mPa*s @ 20 °C

### Oxidizing properties

Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties

### Explosive properties

Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

### Other information

Molecular weight 88,10
Molecular formula C4 H8 O2
Refractive index 1,393 @ 20 °C
Surface tension 70,2 mN/m (1 g/l @ 20°C (68°F)), OECD 115

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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 textbook 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***

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Isobutyric acid (79-31-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of Exposure</td>
<td>Endpoint</td>
</tr>
<tr>
<td>Oral</td>
<td>LD50</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Isobutyric acid (79-31-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Organ Effects</td>
</tr>
<tr>
<td>Skin</td>
</tr>
<tr>
<td>Eyes</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

<table>
<thead>
<tr>
<th>Isobutyric acid (79-31-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Subchronic toxicity</td>
</tr>
<tr>
<td>Subchronic toxicity</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

<table>
<thead>
<tr>
<th>Isobutyric acid (79-31-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>Mutagenicity</td>
</tr>
<tr>
<td>Mutagenicity</td>
</tr>
<tr>
<td>Mutagenicity</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
</tr>
<tr>
<td>Developmental Toxicity</td>
</tr>
<tr>
<td>Developmental Toxicity</td>
</tr>
<tr>
<td>Developmental Toxicity</td>
</tr>
<tr>
<td>Developmental Toxicity</td>
</tr>
</tbody>
</table>

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

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***

Aspiration toxicity

Due to the viscosity, this product does not present an aspiration hazard***
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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
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
> 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.
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 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 of MARPOL and the IBC Code

not applicable***

ADR/RID

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 ***
   ADR Tunnel restriction code (D/E)
   Classification Code FC
   Hazard Number 38

SECTION 15: Regulatory information

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

Regulation 1272/2008, Annex VI

Isobutyric acid, CAS: 79-31-2
Classification Acute Tox. 4*; H312
Acute Tox. 4*; H302***
Hazard pictograms GHS07 Exclamation mark***
Signal word Warning
Hazard statements H312, H302

DI 2012/18/EU (Seveso III) ***
Category Annex I, part 1:
P5a - c; depending on conditions***

DI 1999/13/EC (VOC Guideline)

Component Status
Isobutyric acid regulated***
CAS: 79-31-2

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)***
FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3
H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.

Abbreviations
A table of terms and abbreviations can be found under the following link:

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).

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End of Safety Data Sheet