1. IDENTIFICATION

Product identifier

Product Name

Propionic Acid

Chemical Name

Propionic acid

CAS No

79-09-4

Other means of identification

Pure substance/mixture

Substance

Recommended use of the chemical and restrictions on use

Application

No information available

Uses advised against

Not identified.

Details of the supplier of the safety data sheet

Manufacturer Address

Perstorp Oxo AB
SE-444 84 Stenungsund
Sweden
Tel. +46 303 728600
Fax. +46 303 728607
www.perstorp.com

Supplier Address

Perstorp Polyols, Inc.
600 Matzinger Road
Toledo, Ohio 43612
Tel: 419-729-5448/ 800-537-0280
www.perstorp.com

E-mail address

productinfo@perstorp.com

Emergency telephone number

USA
(+1) 866 519 4752 (contract no: 334101)

2. HAZARDS IDENTIFICATION

Hazards description

Inhalation: Inhalation of vapors may cause sharp, stinging pain in nose and throat, cough and hoarseness. Inhalation of high concentrations may also cause pulmonary edema that may occur after several hours. Prolonged and repeated contact with vapors may cause inflammation in nose and throat, chronic bronchitis and dental corrosion.

Skin contact: Skin contact may cause severe burns with redness, smarting pain and wounds. Prolonged and repeated contact with vapors may cause calluses.

Eye contact: Splashes causes intensive pain and corneal burns. Risk of permanent eye damage. Vapors may be substantially irritating.

Ingestion: Ingestion may cause severe burns with burning pain, vomiting and eventually shock and kidney damage. Risk of permanent damage due to scarring of the esophagus and stomach.

Classification of the substance or mixture

Skin corrosion/irritation - Category 1 Sub-category B
Serious eye damage/eye irritation - Category 1
Specific target organ toxicity (single exposure) - Category 3
Flammable liquids - Category 3

Label elements

Symbols/Pictograms
Signal word
Danger

Hazard statements
Causes severe skin burns and eye damage
May cause respiratory irritation
Flammable liquid and vapor

Precautionary Statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Do not breathe vapor
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor

Contains: Propionic acid 100%
Contains Propionic acid

Supplemental information
Not applicable.

Hazards not otherwise classified (HNOC)
The substance is a flammable liquid and may form explosive air/vapour mixtures.

Other hazards
May be harmful if swallowed. May be harmful in contact with skin.

Unknown Acute Toxicity
Not applicable, Substance

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid</td>
<td>79-09-4</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

General advice
Begin first-aid measures immediately!. Causes severe skin burns and eye damage. If unconscious place in recovery position and seek medical advice. First aider: Pay attention to self-protection. Emergency shower and eye wash facilities must exist in the work place.

Inhalation
Remove to fresh air. Call a physician or poison control center immediately. If experiencing respiratory symptoms:. Artificial respiration and/or oxygen may be necessary.

Skin contact
Wash off immediately with plenty of water for at least 15 minutes. Use lukewarm water if possible. Take off contaminated clothing. Seek immediate medical attention/advice.

Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Keep eye wide open while rinsing. Do not rub affected area. Use lukewarm water if possible. Seek immediate medical attention/advice.

**Ingestion**
Do NOT induce vomiting. Clean mouth with water and drink plenty of water afterwards. Remove from exposure, lie down. Seek immediate medical attention/advice.

**Self-protection of the first aider**
Avoid contact with skin, eyes or clothing. Remove all sources of ignition.

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

**Inhalation:** Inhalation of vapors may cause sharp, stinging pain in nose and throat, cough and hoarseness. Inhalation of high concentrations may also cause pulmonary oedema that may occur after several hours. Prolonged and repeated contact with vapors may cause inflammation in nose and throat, chronic bronchitis and dental corrosion. Skin contact: Skin contact may cause severe burns with redness, sharp, stinging pain and wounds. Eye contact: Splashes causes intensive pain and corneal burns. Risk of permanent eye damage. Vapors may be substantially irritating. **Ingestion:** Ingestion may cause severe burns with burning pain, vomiting and eventually shock and kidney damage. Risk of permanent damage due to scarring of the esophagus and stomach.

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

Product is a corrosive material. Use of gastric lavage or emesis is not advised. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal oedema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Carbon dioxide (CO2), Extinguishing powder, Water spray (fog), Alcohol resistant foam.

- **Small Fire**
  Carbon dioxide (CO2), Extinguishing powder.

- **Large Fire**
  Alcohol resistant foam, Water spray or fog.

**Unsuitable extinguishing media**
High volume water jet.

**Specific hazards arising from the chemical**
In the event of fire and/or explosion do not breathe fumes. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). The product causes burns of eyes, skin and mucous membranes. Vapors may form explosive mixtures with air. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Hazardous combustion products**
Carbon dioxide (CO2), Carbon monoxide (CO).

**Protective equipment and precautions for firefighters**
Keep away from sources of ignition. Prevent fire fighting water from entering surface water or groundwater. Cool containers with spray water from a safe distance. Never use welding or cutting torch on or near container (even empty) because product may ignite explosively.

**Additional information**
Cool containers with flooding quantities of water until well after fire is out. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### 6. ACCIDENTAL RELEASE MEASURES

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

**Personal precautions**
Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Prevent further leakage or spillage if safe to do so.

**Environmental precautions**
Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Local authorities should be advised if significant spillages cannot be contained. Dilute with plenty of water. See Section 12 for additional ecological information.
Methods and material for containment and cleaning up

Methods for containment

Small spill: Dilute with water and wipe up or absorb with inert material.
Large spill: Dike to collect large liquid spills. Pump up the product into a spare container suitably labelled.

Methods for cleaning up
Flush area with flooding quantities of water.

Reference to other sections
See Section 7,8,13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling
Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

General Hygiene Considerations
When using do not eat, drink or smoke. Take off all contaminated clothing and wash it before reuse.

Conditions for safe storage, including any incompatibilities
Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines
Users are advised to consider national Occupational Exposure Limits or other equivalent values.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid</td>
<td>TWA: 10 ppm</td>
<td>(vacated) TWA: 10 ppm</td>
<td>Not available</td>
</tr>
<tr>
<td>79-09-4</td>
<td></td>
<td>(vacated) TWA: 30 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls
Emergency shower and eye wash facilities must exist in the work place. Ensure adequate ventilation, especially in confined areas. Comply with the legislation concerning equipment and protective systems intended for use in potentially explosive atmospheres.

Individual protection measures, such as personal protective equipment

Eye/face protection
Tight sealing safety goggles. Face protection shield.

Skin and body protection
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (in case of splashes).

Respiratory protection
Suitable respiratory protection for lower concentrations or short-term exposure:
- Gas filter for gases/vapours of organic compounds (boiling point >65°C e.g. organic vapor/gas cartridge)
9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorless</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Pungent</td>
<td></td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>0.026-0.17 ppm</td>
<td></td>
</tr>
<tr>
<td><strong>Property</strong></td>
<td><strong>Value</strong></td>
<td><strong>Remarks • Method</strong></td>
</tr>
<tr>
<td>pH</td>
<td>2.5</td>
<td>@20°C (100 g/l)</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>&lt; -20 °C / -4 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>141 °C / 286 °F</td>
<td>OECD Test No. 103: Boiling Point</td>
</tr>
<tr>
<td>Flash point</td>
<td>51 °C / 124 °F</td>
<td>ASTM D 7094-04</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td></td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td></td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper explosive limits</td>
<td>12 %</td>
<td></td>
</tr>
<tr>
<td>Lower explosive limits</td>
<td>2 %</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>0.4 kPa</td>
<td>@20°C; lit.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td></td>
<td>Miscible in water</td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Particle coefficient</strong></td>
<td>0.3</td>
<td>log POW (@20°C; OECD 107) Partition</td>
</tr>
<tr>
<td><strong>Coefficient (n-octanol/water)</strong></td>
<td></td>
<td>Coefficient (n-octanol/water)</td>
</tr>
<tr>
<td><strong>Autoignition temperature</strong></td>
<td>425 °C / 797 °F</td>
<td>ASTM E 659-78</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Kinematic viscosity</strong></td>
<td></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Dynamic viscosity</strong></td>
<td>1.2 mPa s</td>
<td>@20°C; ISO 3219</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td></td>
<td>The product is not explosive. However, formation of explosive air/vapour mixtures are possible. Not oxidizing.</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>994 kg/m³</td>
<td>@ 20 °C</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td></td>
<td>No information available</td>
</tr>
</tbody>
</table>

Other Information
No information available

10. STABILITY AND REACTIVITY

Reactivity
The substance may act as a source for a formyl group or a hydride ion. Due to its acidity, its solutions in alcohols form esters spontaneously. Propionate salts are formed by reaction with hydroxides of alkali metals.

Chemical stability
Stable under normal conditions.

Possibility of Hazardous Reactions
Vapors may form explosive mixture with air Reacts with: alkalis, Oxidizing substances. Corrosive substances in contact with metals may produce flammable hydrogen gas.

Conditions to avoid
No information available.

Incompatible materials
Alkali, Oxidizing substances

Hazardous decomposition products
Hydrogen, Flammable gases, In case of fire:. Carbon oxides.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation. Dermal.

Symptoms related to the physical, chemical and toxicological characteristics
See Section 4 for more information.

Numerical measures of toxicity

<table>
<thead>
<tr>
<th>mg/kg</th>
<th>mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>Acute Toxicity</td>
</tr>
</tbody>
</table>

Acute toxicity
May be harmful if swallowed. May be harmful in contact with skin.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4) Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Effective dose</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 401: Acute Oral Toxicity</td>
<td>Rat</td>
<td>Oral</td>
<td>3455</td>
<td>LD50 (lethal dose) mg/kg</td>
</tr>
<tr>
<td>OECD Test No. 403: Acute Inhalation Toxicity</td>
<td>Rat</td>
<td>Inhalation</td>
<td>&gt;19.7</td>
<td>Inhalation LC50 - 4 hour - vapor - mg/L</td>
</tr>
<tr>
<td>OECD Test No. 402: Acute Dermal Toxicity</td>
<td>Rat</td>
<td>Dermal</td>
<td>3235</td>
<td>LD50 (lethal dose) mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Causes burns.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4) Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>rabbit</td>
<td>Dermal</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>

Serious eye damage/eye irritation
Causes burns.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4) Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>rabbit</td>
<td>Eye</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>

Respiratory or skin sensitization
Not a skin sensitizer.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4) Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 406: Skin Sensitization</td>
<td>Guinea pig</td>
<td>Skin</td>
<td>Not a skin sensitizer</td>
</tr>
</tbody>
</table>

Germ cell mutagenicity
Not mutagenic.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4) Method</th>
<th>Species</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 471: Bacterial Reverse Mutation Test</td>
<td>in vitro</td>
<td>Negative</td>
</tr>
<tr>
<td>OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test</td>
<td>in vitro</td>
<td>Negative read-across from supporting substance (structural analogue)</td>
</tr>
<tr>
<td>OECD Test No. 479: Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells</td>
<td>in vitro</td>
<td>Negative</td>
</tr>
<tr>
<td>OECD Test No. 474: Mammalian Erythrocyte</td>
<td>in vivo</td>
<td>Negative</td>
</tr>
</tbody>
</table>
Carcinogenicity
Animal studies have not shown any carcinogenic potential. There is no indication for any carcinogenic potential since all in vitro and in vivo mutagenicity studies are negative.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4)</th>
<th>Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Effective dose</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unknown</td>
<td>Rat</td>
<td>Oral</td>
<td>4000 ppm</td>
<td>NOAEL ppm Animal studies have not shown any carcinogenic potential.</td>
</tr>
</tbody>
</table>

Reproductive toxicity
No embryotoxic or teratogenic effects have been observed.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4)</th>
<th>Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Effective dose</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OECD Test No. 414: Prenatal Development Toxicity Study</td>
<td>Rat</td>
<td>Oral</td>
<td>300 mg/kg bw/day</td>
<td>NOAEL mg/kg bw/day read-across from supporting substance (structural analogue)</td>
</tr>
</tbody>
</table>

STOT - single exposure
Irritating to respiratory system

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4)</th>
<th>Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Effective dose</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inhalation</td>
<td>Rat</td>
<td>Oral</td>
<td>NOAEL Chronic effects, local ppm</td>
<td></td>
</tr>
</tbody>
</table>

STOT - repeated exposure
The available data indicate that the product is of low toxicity and is not classified for repeated dose effects.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4)</th>
<th>Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Effective dose</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents</td>
<td>Rat</td>
<td>Oral</td>
<td>6200 Chronic effects, local ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents</td>
<td>Rat</td>
<td>Oral</td>
<td>50000 Systemic toxicity ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OECD Test No. 411: Subchronic Dermal Toxicity: 90-day Study</td>
<td>Mouse</td>
<td>Dermal</td>
<td>136.9 Subchronic toxicity mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OECD Test No. 409: Repeated Dose 90-Day Oral Toxicity Study in Non-Rodents</td>
<td>Dog</td>
<td>Oral</td>
<td>733.4 mg/kg bw/day</td>
<td></td>
</tr>
</tbody>
</table>

Aspiration hazard
No hazard identified. No hazard from product as supplied.

12. ECOLOGICAL INFORMATION

Toxicity
Low toxicity to aquatic organisms.

<table>
<thead>
<tr>
<th>Propionic acid (79-09-4)</th>
<th>Method</th>
<th>Species</th>
<th>Exposure route</th>
<th>Effective dose</th>
<th>Exposure time</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DIN 38412</td>
<td>Leuciscus idus</td>
<td>Freshwater</td>
<td>&gt;10000</td>
<td>96h</td>
<td>LC50 (lethal)</td>
</tr>
</tbody>
</table>
### Persistence and degradability
Readily biodegradable.

#### Propionic acid (79-09-4)

<table>
<thead>
<tr>
<th>Method</th>
<th>Value</th>
<th>Exposure time</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD Test No. 302B: Inherent Biodegradability, Zahn-Wellens/EVPA Test</td>
<td>95%</td>
<td>10d</td>
<td>Readily biodegradable</td>
</tr>
<tr>
<td>Unknown</td>
<td>74%</td>
<td>30d</td>
<td>Readily biodegradable</td>
</tr>
</tbody>
</table>

### Bioaccumulative potential
No bioaccumulation potential.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid</td>
<td>0.33</td>
<td></td>
</tr>
</tbody>
</table>

### Mobility in soil
The substance is not expected to adsorb to a high degree to suspended solids and sediment based upon the log Pow.

### Other adverse effects
Emissions to water lowers the pH. This may cause local damage to fish and aquatic organisms in the discharge area.

## 13. DISPOSAL CONSIDERATIONS

### Disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

**US EPA Waste Number**: D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid</td>
<td>Toxic</td>
</tr>
<tr>
<td></td>
<td>Corrosive</td>
</tr>
<tr>
<td></td>
<td>Ignitable</td>
</tr>
</tbody>
</table>

### Contaminated packaging
Thoroughly emptied and clean packaging may be recycled.

## 14. TRANSPORT INFORMATION
DOT  Road transport
UN/ID no  UN3463
UN proper shipping name  Propionic acid
Proper Shipping Description  UN3463, Propionic acid, 8 (3), II
Transport hazard class(es)  8
Subsidiary hazard class  3
Packing Group  II
Special precautions for user  IB2, T7, TP2
Emergency Response Guide Number  132

RID  Rail transport
UN number  UN3463
UN proper shipping name  Propionic acid
Proper Shipping Description  UN3463, Propionic acid (3), II
Transport hazard class(es)  8
Subsidiary hazard class  3
Packing Group  II
ADR Hazard Id (Kemmler Number)  83

IMDG  Sea transport
UN number  UN3463
UN proper shipping name  Propionic acid
Proper Shipping Description  UN3463, Propionic acid (3), II, (51°C c.c.)
Transport hazard class(es)  8
Subsidiary hazard class  3
Packing Group  II
EmS-No  F-E, S-C
Limited quantity (LQ)  1 L
Transport in bulk according to Y, S/P, 3,2G
Annex II of MARPOL 73/78 and the IBC Code

IATA  Air transport
UN number  UN3463
UN proper shipping name  Propionic acid
Proper Shipping Description  UN3463, Propionic acid (3), II
Transport hazard class(es)  8
Subsidiary hazard class  3
Packing Group  II
ERG Code  8F
Limited quantity (LQ)  0.5 L

15. REGULATORY INFORMATION

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

International Regulations
Not applicable.

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372
CWA (Clean Water Act)
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid 79-09-4</td>
<td>5000 lb</td>
<td>Not available</td>
<td>Not available</td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid 79-09-4</td>
<td>5000 lb</td>
<td>Not available</td>
<td>RQ 5000 lb final RQ</td>
</tr>
</tbody>
</table>

TSCA Inventory
Listed and active in the TSCA registry.

US State Regulations
California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propionic acid 79-09-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA
Health hazards 3 Flammability 2 Instability 0 Physical and Chemical Properties Not available

HMIS
Health hazards 3 Flammability 2 Physical hazards 0 Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet
Not applicable

Issue Date 10-Jul-2019
Revision Date 10-Jul-2019
Revision Note SDS sections updated: 2, 11


Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet