SAFETY DATA SHEET

Isovaleraldehyde
10150
Version / Revision 5
Supersedes Version 4.01
Revision Date 04-May-2020
Issuing date 15-May-2020

SECTION 1: Identification

1.1. Product identifier

Identification of the substance/preparation

Isovaleraldehyde

Chemical Name 3-Methylbutanal
CAS-No 590-86-3

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

Use of the Substance / Preparation Intermediate
Uses advised against None

1.3. Details of the supplier of the safety data sheet

Supplier OQ Chemicals 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: sc.psq@oq.com

1.4. Emergency telephone number

Emergency telephone number NCEC +1 202 464 2554
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).

- Serious eye damage/eye irritation Category 2A, H319
- Skin sensitization Category 1, H317
- Target Organ Systemic Toxicant - Single exposure Category 3, H335
- Flammable liquid Category 2, H225
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Environmental hazard Aquatic Chronic 2; H411; Aquatic Acute 2; H401

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

H225: Highly flammable liquid and vapor.
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.
H335: May cause respiratory irritation.
H401: Toxic to aquatic life
H411: Toxic to aquatic life with long lasting effects.

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/eye protection/face protection.
P264: Wash hands thoroughly after handling.
P261: Avoid breathing gas/mist/vapours.
P271: Use only outdoors or in a well ventilated area.
P273: Avoid release to the environment.

Response

P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P363: Wash contaminated clothing before reuse.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Emergency telephone number

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P337 + P313: If eye irritation persists: Get medical advice/attention.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTRE/doctor if you feel unwell.
P391: Collect spillage.

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
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
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>Isovaleraldehyde</td>
<td>590-86-3</td>
<td>&gt; 99,0</td>
</tr>
</tbody>
</table>

Remarks
3-Methylbutanal.

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. Obtain medical attention.

Ingestion
Do not induce vomiting without medical advice. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Main symptoms
shortness of breath, vomiting, headache, nausea.
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Special hazard
Lung oedema, Lung irritation.

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. In case of lung irritation, first treatment with cortisone spray.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
alcohol-resistant 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
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
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
Keep people away from and upwind of fire. Cool containers / tanks with water spray. Dike and collect water used to fight fire. Water run-off can cause environmental damage.

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). Water runoff can cause environmental damage.

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. DO NOT use combustible materials such as sawdust. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. 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. Refill and handle product only in closed system. Do not use compressed air for filling, discharging or handling.

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
acids and bases
amines
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. Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback. 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. Handle under nitrogen, protect from moisture. Store at temperatures not exceeding 38 °C/100 °F.

**Suitable material**
- stainless steel

**Unsuitable material**
- mild steel

**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 3</td>
</tr>
<tr>
<td>Glove thickness</td>
<td>approx 0.3 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>approx 60 min</td>
</tr>
<tr>
<td>Suitable material</td>
<td>polyvinylchloride</td>
</tr>
</tbody>
</table>
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Evaluation
Information derived from practical experience

Glove thickness
approx 0.8 mm

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.

Environmental exposure controls
If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. 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
strong

Odour threshold
0.1 - 2 ppb

pH
3.1 (15 g/l in water @ 20 °C (68 °F))

Melting point/range
< -130 °F (< -90 °C) (Pour point)

Boiling point/range
198 °F (92 °C) @ 1 atm (101,3 kPa)

Flash point
33 °F (0,5 °C)

Method
EU A.9

Evaporation rate
No data available

Flammability (solid, gas)
Does not apply, the substance is a liquid

Lower explosion limit
No data available

Upper explosion limit
No data available

Vapour pressure

<table>
<thead>
<tr>
<th>Values [hPa]</th>
<th>Values [kPa]</th>
<th>Values [atm]</th>
<th>@ °C</th>
<th>@ °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>7.5</td>
<td>0.074</td>
<td>20</td>
<td>68</td>
</tr>
<tr>
<td>255</td>
<td>25.5</td>
<td>0.252</td>
<td>50</td>
<td>122</td>
</tr>
</tbody>
</table>

Vapour density
2.96 (Air = 1) @ 20 °C (68 °F)

Relative density

<table>
<thead>
<tr>
<th>Values</th>
<th>@ °C</th>
<th>@ °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.797</td>
<td>20</td>
<td>68</td>
</tr>
</tbody>
</table>

Solubility
15 g/l @ 20 °C (68 °F), in water, OECD 105

log Pow
1.5 (measured) OECD 117

Autoignition temperature
410 °F (210 °C)

Method
DIN 51794

Decomposition temperature
No data available

Viscosity
0.69 mm²/s @ 68 °F (20 °C)
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Method
OECD 114, kinematic

9.2. Other information

Molecular weight
86.13
Molecular formula
C5 H10 O
Oxidizing properties
Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties
Refractive Index
1,387 @ 68 °F (20 °C)
Explosive properties
Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties
Surface tension
46.1 mN/m (1 g/l @ 20°C (68°F)), OECD 115

SECTION 10: Stability and Reactivity

10.1. Reactivity
The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any textbook on organic chemistry.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Hazardous polymerisation may occur. Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers. May form explosive peroxides. When finely distributed, self-ignition is possible. 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, acids, 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
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Main symptoms
shortness of breath, vomiting, nausea, headache.

Target Organ Systemic Toxicant - Single exposure
The available data lead to the classification given in section 2

Target Organ Systemic Toxicant - Repeated exposure
Based on available data, the classification criteria are not met for:
STOT RE

Acute toxicity
Isovaleraldehyde (590-86-3)

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>Endpoint</th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>~ 5740 mg/kg</td>
<td>rat, male/female</td>
<td>OECD 401</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>2534 mg/kg</td>
<td>rabbit</td>
<td>OECD 402</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC50</td>
<td>42.7 mg/l (4h)</td>
<td>rat</td>
<td>OECD 403</td>
</tr>
</tbody>
</table>

Isovaleraldehyde, CAS: 590-86-3
Assessment
Based on available data, the classification criteria are not met for:
Acute oral toxicity
Acute dermal toxicity
Acute inhalation toxicity

Irritation and corrosion
Isovaleraldehyde (590-86-3)

<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>Mild skin irritation</td>
<td>OECD 404</td>
</tr>
<tr>
<td>Eyes</td>
<td>rabbit</td>
<td>irritating</td>
<td></td>
</tr>
<tr>
<td>Respiratory tract</td>
<td>mouse</td>
<td>RD50: 757-1000 ppm</td>
<td></td>
</tr>
</tbody>
</table>

Isovaleraldehyde, CAS: 590-86-3
Assessment
The available data lead to the classification given in section 2

Sensitization
Isovaleraldehyde (590-86-3)

<table>
<thead>
<tr>
<th>Target Organ Effects</th>
<th>Species</th>
<th>Evaluation</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>mouse guinea pig</td>
<td>sensitizing</td>
<td>read across</td>
</tr>
</tbody>
</table>

Isovaleraldehyde, CAS: 590-86-3
Assessment
The available data lead to a classification as skin sensitizer (see section 2)
For respiratory sensitization, no data are available

Subacute, subchronic and prolonged toxicity
Isovaleraldehyde (590-86-3)

<table>
<thead>
<tr>
<th>Type</th>
<th>Dose</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>no data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Carcinogenicity, Mutagenicity, Reproductive toxicity

<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>human lymphocytes</td>
<td>positive (without metabolic activation)</td>
<td>Similar to: OECD 479 (SCE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In vitro study</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>Salmonella typhimurium</td>
<td>negative</td>
<td>OECD 471 (Ames)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>read across</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>mouse</td>
<td>negative</td>
<td>OECD 474 Chromosomal Aberration</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>LOAEC: 500 ppm</td>
<td>rat, male/female</td>
<td>negative</td>
<td>OECD 451, Inhalative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>read across</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>LOAEC: 500 ppm</td>
<td>mouse</td>
<td>negative</td>
<td>OECD 451, Inhalative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>male/female</td>
<td></td>
<td>read across</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Isovaleraldehyde, CAS: 590-86-3

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
Did not show carcinogenic or mutagenic effects in animal experiments

Isovaleraldehyde, CAS: 590-86-3

Aspiration toxicity
According to experience not expected

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

<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: 177 mg/l</td>
<td>84/449/EEC C.2</td>
</tr>
<tr>
<td>Pimephales promelas (fathead minnow)</td>
<td>96h</td>
<td>LC50: 3,25 mg/l</td>
<td>OECD 203</td>
</tr>
<tr>
<td>Desmodesmus subspicatus</td>
<td>72h</td>
<td>EC50: 80 mg/l (Biomass)</td>
<td>DIN 38412, part 9</td>
</tr>
<tr>
<td>Desmodesmus subspicatus</td>
<td>72h</td>
<td>EC50: 112,78 mg/l (Growth rate)</td>
<td>DIN 38412, part 9</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Long term toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isovaleraldehyde (590-86-3)</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Aquatic toxicity</td>
</tr>
<tr>
<td>Aquatic toxicity</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Isovaleraldehyde, CAS: 590-86-3
Biodegradation
50% (28 d), Sewage, aerobic, OECD 301 D.

<table>
<thead>
<tr>
<th>Abiotic Degradation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isovaleraldehyde (590-86-3)</td>
</tr>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Hydrolysis</td>
</tr>
<tr>
<td>Photolysis</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Isovaleraldehyde (590-86-3)

| Type | Result | Method |
| log Pow | 1.5 | OECD 117 |
| BCF | No data available | |

12.4. Mobility in soil

No data available

<table>
<thead>
<tr>
<th>Isovaleraldehyde (590-86-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Surface tension</td>
</tr>
<tr>
<td>Adsorption/Desorption</td>
</tr>
<tr>
<td>Distribution to environmental compartments</td>
</tr>
</tbody>
</table>

12.5. Results of PBT and vPvB assessment

Isovaleraldehyde, CAS: 590-86-3
PBT and vPvB assessment
Not required

12.6. Other adverse effects
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Isovaleraldehyde, CAS: 590-86-3
No data available

Note
Avoid release to the environment.

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.

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 2058
14.2. UN proper shipping name Valeraldehyde
14.3. Transport hazard class(es) 3
14.4. Packing group II
14.5. Environmental hazards no
14.6. Special precautions for user Emergency Response Guide 129

ICAO-TI / IATA-DGR

14.1. UN number UN 2058
14.2. UN proper shipping name Valeraldehyde
14.3. Transport hazard class(es) 3
14.4. Packing group II
14.5. Environmental hazards no
14.6. Special precautions for user no data available

IMDG

Emergency telephone number
USA (A-US)
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14.1. UN number
UN 2058

14.2. UN proper shipping name
Valeraldehyde

14.3. Transport hazard class(es)
3

14.4. Packing group
II

14.5. Environmental hazards
no

14.6. Special precautions for user
EmS
F-E, S-D

14.7. Transport in bulk according to Annex II
of MARPOL and the IBC Code

<table>
<thead>
<tr>
<th>Product name</th>
<th>Valeraldehyde</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship type</td>
<td>3</td>
</tr>
<tr>
<td>Pollution category</td>
<td>Y</td>
</tr>
</tbody>
</table>

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

Isovaleraldehyde, CAS: 590-86-3
CERCLA Hazardous Substance
CERCLA RQ
100 LBS

State Regulations

Isovaleraldehyde, CAS: 590-86-3
IL Chemical Safety Act
MA RTK List
NY RTK List
PA RTK List

International Inventories

Isovaleraldehyde, CAS: 590-86-3
AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2096915 (EU)
ENCS (2)-494 (JP)
ISHL (2)-494 (JP)
KECI KE-23536 (KR)
INSQ (MX)

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USA (A-US)
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PICCS (PH)
TSCA (US)
NZIoC (NZ)
TCSI (TW)

SECTION 16: Other information

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Issuing date 15-May-2020

Hazard Rating Systems

NFPA (National Fire Protection Association)
Health Hazard 1
Fire Hazard 3
Reactivity 0

HMIS (Hazardous Material Information System)
Health Hazard 1
Flammability 3
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 OQ 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 OQ homepage (www.chemicals.oq.com).
The use of a comma in section 3 and section 7 to 12 is the same as a period.

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End of Safety Data Sheet