

# SAFETY DATA SHEET



**2-Methylbutanal**  
**10790**

Version / Revision  
Supersedes Version

3  
2.01

Revision Date  
Issuing date

06-May-2020  
15-May-2020

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

### 1.1. Product identifier

Identification of the  
substance/preparation

**2-Methylbutanal**

CAS-No. 96-17-3  
EC No. 202-485-6

### 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

Company/Undertaking  
Identification **OQ Chemicals GmbH**  
Rheinpromenade 4A  
D-40789 Monheim  
Germany

Product Information Product Stewardship  
FAX: +49 (0)208 693 2053  
email: sc.psq@oq.com

### 1.4. Emergency telephone number

Emergency telephone number +44 (0) 1235 239 670 (UK) available 24/7  
NCEC +1 202 464 2554 available 24/7  
Local emergency telephone  
number +61 2 8014 4558 (Australia)  
18000 74234 (Australia toll-free number)  
+64 9 929 1483 (New Zealand)  
0800 446 881 (New Zealand toll-free number)  
+65 3158 1195 (Sri Lanka)  
007 803 011 0293 (Indonesia toll-free number)  
+60 3 6207 4347 (Malaysia)  
001 800 120 666 751 (Thailand toll-free number)  
+65 3158 1200 (Bangladesh)  
+63 2 8231 2149 (Philippines)  
+84 28 4458 2388 (Vietnam)  
+65 3165 2217 (Singapore)  
available 24/7

## SECTION 2: Hazards identification

### Europe



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

### 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

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

### Precautionary statements

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233: Keep container tightly closed.  
P261: Avoid breathing gas/mist/vapours.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P403 + P235: Store in a well ventilated place. Keep cool.  
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

## USA

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## 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  
Environmental hazard Aquatic Acute 2; H401; Aquatic Chronic 2; H411

**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.  
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.  
P241: Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242: Use non-sparking tools.  
P243: Take action to prevent static discharges.  
P261: Avoid breathing gas/mist/vapours.  
P264: Wash hands thoroughly after handling.  
P272: Contaminated work clothing must not be allowed out of the workplace.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/eye protection/face protection.

**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.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313: If eye irritation persists: Get medical advice/ attention.  
P363: Wash contaminated clothing before reuse.

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P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P391: Collect spillage.

**Storage** P403 + P235: Store in a well ventilated place. Keep cool.

**Disposal** P501: Dispose of contents/container in accordance with local regulation.

## 2.3. Other hazards

None known

## SECTION 3: Composition / information on ingredients

### 3.1. Substances

| Component             | CAS-No  | REACH-No         | 1272/2008/EC                                                                                                    | Concentration (%) |
|-----------------------|---------|------------------|-----------------------------------------------------------------------------------------------------------------|-------------------|
| 2-Methylbutyraldehyde | 96-17-3 | 01-2119615422-50 | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319<br>Skin Sens. 1; H317<br>STOT SE 3; H335<br>Aquatic Chronic 2;<br>H411 | > 98,0            |

## 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. Obtain medical attention.

#### Skin

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

#### 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, headache, nausea, vomiting.

#### 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.



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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 (CO<sub>2</sub>), 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 (CO<sub>2</sub>)

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**

Cool containers / tanks with water spray. 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. DO NOT use combustible materials such as sawdust. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Keep in suitable, closed containers for disposal.

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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

#### Temperature class

T4

### 7.3. Specific end use(s)

Transported isolated intermediate (1907/2006)

## SECTION 8: Exposure controls / personal protection

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## 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

No exposure limits established.

## 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.

|                           |                                               |
|---------------------------|-----------------------------------------------|
| <b>Suitable material</b>  | butyl-rubber                                  |
| <b>Evaluation</b>         | according to EN 374: level 3                  |
| <b>Glove thickness</b>    | approx 0.3 mm                                 |
| <b>Break through time</b> | approx 60 min                                 |
| <b>Suitable material</b>  | polyvinylchloride                             |
| <b>Evaluation</b>         | Information derived from practical experience |
| <b>Glove thickness</b>    | 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, EN or other applicable national standards.

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## 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. 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                     | strong                                         |
| Odour threshold           | 1 ppb                                          |
| pH                        | 3,2 (13 g/l in water @ 20 °C (68 °F)) OECD 105 |
| Melting point/range       | < -90 °C (Pour point) @ 1013 hPa               |
| Boiling point/range       | 92 °C @ 1013 hPa                               |
| Flash point               | -5 °C @ 1013 hPa                               |
| 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

| Values [hPa] | Values [kPa] | Values [atm] | @ °C | @ °F | Method            |
|--------------|--------------|--------------|------|------|-------------------|
| 76           | 7,6          | 0,075        | 20   | 68   | DIN EN<br>13016-2 |
| 259          | 25,9         | 0,256        | 50   | 122  | DIN EN<br>13016-2 |

Vapour density No data available

#### Relative density

| Values | @ °C | @ °F | Method    |
|--------|------|------|-----------|
| 0,803  | 20   | 68   | DIN 51757 |

|                          |                            |
|--------------------------|----------------------------|
| Solubility               | No data available          |
| Water solubility         | 13 g/l @ 20 °C, OECD 105   |
| log Pow                  | 1,23 (calculated), KOW WIN |
| Autoignition temperature | 190 °C @ 1017 hPa          |
| Method                   | DIN 51794                  |

|                           |                                |
|---------------------------|--------------------------------|
| Decomposition temperature | No data available              |
| Viscosity                 | 0,66 mm <sup>2</sup> /s @ 20°C |
| Method                    | OECD 114, kinematic            |

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

### 9.2. Other information

|                   |              |
|-------------------|--------------|
| Molecular weight  | 86,13        |
| Molecular formula | C5 H10 O     |
| Refractive index  | 1,39 @ 20 °C |



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Surface tension 48,8 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 text book 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

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

| Acute toxicity                  |          |                |         |          |
|---------------------------------|----------|----------------|---------|----------|
| 2-Methylbutyraldehyde (96-17-3) |          |                |         |          |
| Routes of Exposure              | Endpoint | Values         | Species | Method   |
| Oral                            | LD50     | 6884 mg/kg     | rat     | OECD 401 |
| Dermal                          | LD50     | 5400 mg/kg     | rabbit  | OECD 402 |
| Inhalative                      | LC50     | 50,5 mg/l (4h) | rat     | OECD 403 |

### 2-Methylbutyraldehyde, CAS: 96-17-3

#### Assessment

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

Acute oral toxicity

Acute dermal toxicity

Acute inhalation toxicity

#### Irritation and corrosion

| 2-Methylbutyraldehyde (96-17-3) |         |               |          |             |
|---------------------------------|---------|---------------|----------|-------------|
| Target Organ Effects            | Species | Result        | Method   |             |
| Skin                            | rabbit  | Moderate skin | OECD 404 | read across |

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|      |        |            |  |             |
|------|--------|------------|--|-------------|
|      |        | irritation |  |             |
| Eyes | rabbit | irritating |  | read across |

## **2-Methylbutyraldehyde, CAS: 96-17-3**

### **Assessment**

The available data lead to the classification given in section 2

For respiratory irritation, no data are available

### **Sensitization**

#### **2-Methylbutyraldehyde (96-17-3)**

| Target Organ Effects | Species | Evaluation  | Method   |  |
|----------------------|---------|-------------|----------|--|
| Skin                 | mouse   | sensitizing | OECD 429 |  |

## **2-Methylbutyraldehyde, CAS: 96-17-3**

### **Assessment**

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

For respiratory sensitization, no data are available

### **Subacute, subchronic and prolonged toxicity**

#### **2-Methylbutyraldehyde (96-17-3)**

| Type             | Dose                         | Species   | Method              |             |
|------------------|------------------------------|-----------|---------------------|-------------|
| Chronic toxicity | NOAEC: 500 ppm<br>(24 month) | rat mouse | OECD 453 Inhalation | read across |

## **2-Methylbutyraldehyde, CAS: 96-17-3**

### **Assessment**

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

STOT RE

### **Carcinogenicity, Mutagenicity, Reproductive toxicity**

#### **2-Methylbutyraldehyde (96-17-3)**

| Type                  | Dose              | Species                    | Evaluation                              | Method                                  |                            |
|-----------------------|-------------------|----------------------------|-----------------------------------------|-----------------------------------------|----------------------------|
| Mutagenicity          |                   | Salmonella typhimurium     | negative (without metabolic activation) | OECD 471 (Ames)                         | In vitro study read across |
| Mutagenicity          |                   | V79 cells, Chinese hamster | positive (with metabolic activation)    | OECD 476 (Mammalian Gene Mutation) HPRT | In vitro study read across |
| Mutagenicity          |                   | rat, hepatocytes           | positive                                | OECD 482 UDS test                       | In vitro study read across |
| Mutagenicity          |                   | human hepatocytes          | negative                                | OECD 482 UDS test                       | In vitro study read across |
| Mutagenicity          |                   | mouse                      | negative                                | OECD 474 Micronucleus                   | in vivo read across        |
| Reproductive toxicity | No data available |                            |                                         |                                         |                            |
| Carcinogenicity       | NOAEC: 2000 ppm   | rat mouse                  | negative                                | OECD 453 Inhalation                     | in vivo read across        |

## **2-Methylbutyraldehyde, CAS: 96-17-3**

### **CMR Classification**

The available data on CMR properties do not indicate a classification into categories 1A or 1B

### **Evaluation**

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Did not show carcinogenic effects in animal experiments

## **2-Methylbutyraldehyde, CAS: 96-17-3**

### **Main symptoms**

shortness of breath, headache, nausea, vomiting.

### **Target Organ Systemic Toxicant - Single exposure**

STOT SE

respiratory system

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

### **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:

<http://echa.europa.eu/information-on-chemicals/registered-substances>.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

| <b>Acute aquatic toxicity</b>          |               |                              |          |
|----------------------------------------|---------------|------------------------------|----------|
| <b>2-Methylbutyraldehyde (96-17-3)</b> |               |                              |          |
| Species                                | Exposure time | Dose                         | Method   |
| Daphnia magna (Water flea)             | 48h           | EC50: 7,2 mg/l               | OECD 202 |
| Pseudokirchneriella subcapitata        | 72h           | EC50: 123 mg/l (Growth rate) | OECD 201 |

| <b>Long term toxicity</b>              |                                 |                                        |          |  |
|----------------------------------------|---------------------------------|----------------------------------------|----------|--|
| <b>2-Methylbutyraldehyde (96-17-3)</b> |                                 |                                        |          |  |
| Type                                   | Species                         | Dose                                   | Method   |  |
| Aquatic toxicity                       | Pseudokirchneriella subcapitata | NOEC: 1,43 mg/l (3d) Growth inhibition | OECD 201 |  |

### **12.2. Persistence and degradability**

#### **2-Methylbutyraldehyde, CAS: 96-17-3**

##### **Biodegradation**

54,2 % (28 d), Sewage, aerobic, OECD 301 D.

| <b>Abiotic Degradation</b>             |                   |        |
|----------------------------------------|-------------------|--------|
| <b>2-Methylbutyraldehyde (96-17-3)</b> |                   |        |
| Type                                   | Result            | Method |
| Hydrolysis                             | not expected      |        |
| Photolysis                             | No data available |        |

### **12.3. Bioaccumulative potential**

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| 2-Methylbutyraldehyde (96-17-3) |                   |                     |
|---------------------------------|-------------------|---------------------|
| Type                            | Result            | Method              |
| log Pow                         | 1,23              | calculated, KOW WIN |
| BCF                             | No data available |                     |

## 12.4. Mobility in soil

| 2-Methylbutyraldehyde (96-17-3)            |                                     |          |
|--------------------------------------------|-------------------------------------|----------|
| Type                                       | Result                              | Method   |
| Surface tension                            | 68,5 mN/m (68,52 g/l @ 20°C (68°F)) | OECD 115 |
| Distribution to environmental compartments | no data available                   |          |
| Adsorption/Desorption                      | no data available                   |          |

## 12.5. Results of PBT and vPvB assessment

## 12.6. Other adverse effects

## 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 3371           |
| 14.2. UN proper shipping name      | 2-Methylbutanal   |
| 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 |

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## IMDG

14.1. UN number UN 3371  
14.2. UN proper shipping name 2-Methylbutanal  
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  
Product name Valeraldehyde  
Ship type 3  
Pollution category Y

## ADR/RID

14.1. UN number UN 3371  
14.2. UN proper shipping name 2-Methylbutanal  
14.3. Transport hazard class(es) 3  
14.4. Packing group II  
14.5. Environmental hazards no  
14.6. Special precautions for user  
ADR Tunnel restriction code (D/E)  
Classification Code F1  
Hazard Number 33

## **SECTION 15: Regulatory information**

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

#### DI 2012/18/EU (Seveso III)

Category Annex I, part 1:  
P5a - c; depending on conditions  
E2

#### DI 1999/13/EC (VOC Guideline)

| Component                             | Status    |
|---------------------------------------|-----------|
| 2-Methylbutyraldehyde<br>CAS: 96-17-3 | regulated |

## International Inventories

2-Methylbutyraldehyde, CAS: 96-17-3  
AICS (AU)

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DSL (CA)  
IECSC (CN)  
EC-No. 2024856 (EU)  
ENCS (2)-494 (JP)  
ISHL (2)-494 (JP)  
KECI KE-23535 (KR)  
INSQ (MX)  
PICCS (PH)  
TSCA (US)  
NZIoC-NZ May be used as single component chemical  
TCSI (TW)

## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3

H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H317: May cause an allergic skin reaction.

H335: May cause respiratory irritation.

### Abbreviations

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

[http://echa.europa.eu/documents/10162/13632/information\\_requirements\\_r20\\_en.pdf](http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf)

### 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](http://www.chemicals.oq.com)).

The annex is not required because the substance is registered as an intermediate under REACH

### 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. OQ 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**