

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE A0458
PRODUCT NAME ISOBUTYLDEHYDE
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FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview

OSHA Hazards -

Flammable liquid

Other hazards which do not result in classification

Stench.

GHS Classification

Flammable liquids (Category 2), H225
Eye irritation (Category 2A), H319
Acute aquatic toxicity (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram:



Signal word

Warning

Hazard statement(s)

H225 Highly flammable liquid and vapour.

H303 333 May be harmful if swallowed or if inhaled.
H319 Causes serious eye irritation.
H402 Harmful to aquatic life.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. -No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303 P361 P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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.
P370 P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard 2
Flammability 3
Physical hazards 2

NFPA Rating

Health hazard 2
Fire 3
Reactivity Hazard 0

Potential Health Effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Ingestion

May be harmful if swallowed.

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM: 2-Methylpropionaldehyde
Formula: C₄ H₈ O
Molecular Weight: 72.11 g/mol
CAS-No.: 78-84-2
EC-No.: 201-149-6
Index-No.: N/A
Concentration: N/A

4. FIRST-AID GUIDE:

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING GUIDE:

Suitable extinguishing media

For small (incipient) fires, use media as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions.-Carbon oxides.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE GUIDE:**Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE:**Precautions for safe handling**

Avoid inhalation of vapour or mist. Use explosion- proof equipment. Keep away from sources if ignition-

No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature: 2-8 C.

8. EXPOSURE AND PERSONAL PROTECTION:**Components with workplace controls parameters**

Components	CAS No.	Value	Control parameters	Basis
Isobutyraldehyde	78-84-2	TWA	25 ppm	USA.Workplace Environmental Exposure Levels (WEEL).

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied

air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, flame retardant antistatic protective clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	
Form	liquid
Colour	colorless to pale yellow
Safety data	
pH	no data available
Melting point (°C)	-66C
Boiling point (°C)	74
Flash point (°F) Closed cup	-1F
Ignition temperature	no data available
Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure (mm Hg@20 °C)	90
Density @25 °C	0.792
Water solubility	no data available
Partition coefficient (n-octanol/water)	no data available
Relative vapour density	no data available
Odor	pungent
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY:

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid

Oxidizing agents, Strong acids, Strong bases, and Strong reducing agents.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides.
Other decomposition products- no data available.

11. TOXICOLOGICAL INFORMATION:**Acute toxicity****Oral LD50**

LD50 Oral->3,000 mg/kg

Inhalation LC50

LC50 Inhalation-rat-4h->23,900mg/m³

Dermal LD50 -

LD50 Dermal-rabbit->5,000 mg.kg

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

Reproductive toxicity-rat-Inhalation

Maternal Effects: Other effects.

No data available.

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion

May be harmful if swallowed.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Signs and Symptoms of Exposure

To the best knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available.

Additional Information

RTECS: NQ4025000

12. ECOLOGICAL INFORMATION:

Toxicity

Toxicity to fish and other aquatic invertebrates.

LC50-Leuciscus idus (Golden orfe) -86 mg/l - 48 h

Toxicity to daphnia

EC50-Daphnia magna (Water flea) - 277 mg/l - 48 h

Persistence and degradability

Biodegradability

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

No data available.

13. DISPOSAL RECOMMENDATIONS:

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORTATION INFORMATION:

DOT (US) UN number: Class: Packing group: Proper shipping name:	2045 3 II Isobutyl aldehyde
IMDG UN number: Class: Packing group: EMS-No: Proper shipping name:	2045 3 II F-E,S-D ISOBUTYL ALDEHYDE
IATA UN number: Class: Packing group: Proper shipping name:	2045 3 II Isobutyl aldehyde

15. REGULATORY INFORMATION:

OSHA Hazards

Flammable liquid.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Isobutyraldehyde

CAS-No.: 78-84-2

Revision Date: N/A

SARA 311/312 Hazards

Fire Hazard

Massachusetts Right to Know Components

Isobutyraldehyde

CAS-No.: 78-84-2

Revision Date: 1993-04-24

Pennsylvania Right to Know Components

Isobutyraldehyde

CAS-No.: 78-84-2

Revision Date: 1993-04-24

New Jersey Right to Know Components

Isobutyraldehyde

CAS-No.: 78-84-2

Revision Date: 1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION:

The information in this SDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the SDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the SDS. The user should review these regulations to ensure full compliance.

Prepared By: M&U International LLC

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