

SAFETY DATA SHEET

Version: v1

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

1.1 Product identifiers

Product name : Isobutyraldehyde
Product Number : I434189
Brand : aladdin
CAS-No. : 78-84-2

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 5), H303

Serious eye damage/eye irritation (Category 2A), H319

Germ cell mutagenicity (Category 2), H341

Specific target organ toxicity - single exposure (Category 3), respiratory tract irritation, H335

Short-term (acute) aquatic hazard (Category 3), H402

2.2 GHS Label elements, including precautionary statements

Pictogram



Danger

Signal word

Hazard statement(s)

H225 Highly Flammable liquid and vapor
H303 May be harmful if swallowed
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H341 Suspected of causing genetic defects
H402 Harmful to aquatic life

Precautionary statement(s)

P201 Obtain special instructions before use.
P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P202 Do not handle until all safety precautions have been read and understood.
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.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands [and ...] thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTER or doctor/... if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or 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 ... to extinguish.
P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container to an approved waste disposal plant.
P304+P340+P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor. if you feel unwell.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients**3.1 Substances**

Synonyms	: 2-Methylpropanal, 2-Methylpropionaldehyde
Formula	: C ₄ H ₈ O
Molecular weight	: 72.11
CAS No.	: 78-84-2
EC-NO.	: 201-149-6

Component	Classification	Concentration
Isobutyraldehyde	Flam. Liq. 2; Eye Irrit. 2; H225, H319	redistilled, ≥99.5%

SECTION 4: First aid measures**4.1 Description of first aid measures**

General advice

Show this material safety data sheet to the doctor in attendance

If inhaled

After inhalation: fresh air

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media

Carbon dioxide (CO₂) Foam Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors.

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Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. 2-8°C , Under Inert Atmosphere

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face 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 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. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, 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.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) 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).

Control of environmental exposure

If it is safe, prevent further leakage or spillage and do not allow the product to enter the sewer system.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: Liquid color: Colorless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-65.9°C
f) Initial boiling point and boiling range	64°C
g) Flash point	-6.7°C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available

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l) Vapour density	no data available
m) Relative density	0.79
n) Water solubility	60g/L at 25°C
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with: Strong oxidizing agents Strong acids strong reducing agents Exothermic reaction with: alkaline substances Strong bases

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - 3,730 mg/kg (OECD Test Guideline 401) Symptoms: Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

LC50 Inhalation - Rat - male - 4 h - > 23.6 mg/l - vapor (OECD Test Guideline 403) Symptoms: Inhalation may lead to the formation of oedemas in the respiratory tract., Symptoms may be delayed.

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LD50 Dermal - Rabbit - male - 5,583 mg/kg Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit Result: No skin irritation - 4 h(OECD Test Guideline 404) Remarks: After long-term exposure to the chemical: Dermatitis

Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious eye irritation. - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: NQ4025000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Further hazardous properties cannot be excluded but unlikely when the product is handled appropriately. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 23 mg/l - 96 h Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 277 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2) Remarks: (above the solubility limit in the test medium)

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) - 83.7 mg/l - 72 h (DIN 38412) Remarks: (above the solubility limit in the test medium)

Toxicity to bacteria static test NOEC - activated sludge - 100 mg/l - 14 Days Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 14 d Result: 80 - 90 % - Readily biodegradable. (OECD Test Guideline 301C)

12.3 Bioaccumulative potential

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no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:
13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 2045

Packing group: II

Class: 3

Proper shipping name: Isobutyl aldehyde

Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Environmental Hazards: no

IMDG

UN number: 2045

Packing group: II

EMS-No: no data available

Proper shipping name: Isobutyl aldehyde

IATA

UN number: 2045

Packing group: II

Class: 3

Proper shipping name: Isobutyl aldehyde

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

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SDS sections updated v1

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