

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | CAS-No. | Value | Control parameters | Basis |
|------------------------------------|--|-------|----------------------|--|
| Isobutyl acetate | 110-19-0 | TWA | 150 ppm | USA, ACGIH Threshold Limit Values (TLV) |
| Remarks | Eye & Upper Respiratory Tract irritation | | | |
| | | TWA | 150 ppm 700 mg/m3 | USA, OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 150 ppm 700 mg/m3 | USA, Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| The value in mg/m3 is approximate. | | | | |
| | | TWA | 150 ppm 700 mg/m3 | USA, NIOSH Recommended Exposure Limits |

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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 clear, liquid
Colour colourless

Safety data

pH no data available
Melting point/freezing point Melting point/range: -99 °C (-146 °F) - lit.

Boiling point 115 - 117 °C (239 - 243 °F) - lit.
Flash point 22 °C (72 °F) - closed cup
Ignition temperature 423 °C (793 °F)
Autoignition temperature no data available
Lower explosion limit 1.3 %(V)
Upper explosion limit 10.5 %(V)
Vapour pressure 20 hPa (15 mmHg) at 20 °C (68 °F)
Density 0.867 g/cm3 at 25 °C (77 °F)
Water solubility no data available
Partition coefficient: n-octanol/water no data available
Relative vapour density 4.01 - (Air = 1.0)
Odour no data available
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

Strong oxidizing agents, Strong bases

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 - rat - 13,400 mg/kg

Inhalation LC50

no data available

Dermal LD50

LD50 Dermal - rabbit - > 17,400 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - rabbit - Open irritation test

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

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 of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

no data available

Additional Information

RTECS: A14025000

12. ECOLOGICAL INFORMATION

Toxicity

| | |
|--|---|
| Toxicity to fish | LC50 - Leuciscus idus melanotus - 101 mg/l - 48 h |
| | LC0 - Leuciscus idus melanotus - 70 mg/l - 48 h |
| Toxicity to daphnia and other aquatic invertebrates. | LC50 - Daphnia magna (Water flea) - 250 mg/l - 24 h |

Persistence and degradability

no data available

Bioaccumulative potential

no data available

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Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

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. TRANSPORT INFORMATION

DOT (US)

UN number: 1213 Class: 3 Packing group: II
Proper shipping name: Isobutyl acetate
Reportable Quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1213 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: ISOBUTYL ACETATE
Marine pollutant: No

IATA

UN number: 1213 Class: 3 Packing group: II
Proper shipping name: Isobutyl acetate

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

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard

Massachusetts Right To Know Components

| | | |
|------------------|---------------------|-----------------------------|
| Isobutyl acetate | CAS-No. 110-19-0 | Revision Date 1993-04-24 |
|------------------|---------------------|-----------------------------|

Pennsylvania Right To Know Components

| | | |
|------------------|---------------------|-----------------------------|
| Isobutyl acetate | CAS-No. 110-19-0 | Revision Date 1993-04-24 |
|------------------|---------------------|-----------------------------|

New Jersey Right To Know Components

| | | |
|------------------|---------------------|-----------------------------|
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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

Further Information

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