

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

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## 1. IDENTIFICATION

PRODUCT NAME: ISOBUTYL ACETATE  
CAS NO: 110-19-0  
SYNONYMS: 2-METHYL-1PROPYL ACETATE, ISOBUTYL ESTER  
CHEMICAL FORMULA: C6-H12-O2  
RECOMMENDED USE: GENERAL PURPOSE SOLVENT

## 2. HAZARDS IDENTIFICATION

SIGNAL WORD: DANGER!

OSHA Hazards:  
FLAMMABLE LIQUID, TARGET ORGAN EFFECT

TARGET ORGANS: CENTRAL NERVOUS SYSTEM

Highly flammable liquid and vapor  
May cause drowsiness or dizziness

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation (lung irritant). Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA. A4 (Not classifiable for human or animal.) by ACGIH.

MUTAGENIC EFFECTS: Classified None. for human. TERATOGENIC EFFECTS: Classified None. for human.

DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, upper respiratory tract, eyes, eye, lens or cornea.

Repeated or prolonged exposure to the substance can produce target organs damage.

## 3. COMPOSITION

NAME:	CAS NO:	% BY WEIGHT
ISOBUTYL ACETATE	110-19-0	100

Toxicological Data on Ingredients: Isobutyl acetate: ORAL (LD50): Acute: 13400 mg/kg [Rat]. 4763 mg/kg [Rabbit]. DERMAL (LD50): Acute: 17400 mg/kg [Rabbit].

## 4. FIRST AID MEASURES

### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

### Ingestion:

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

## 5. FIRE FIGHTING MEASURES

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 421°C (789.8°F)

Flash Points: CLOSED CUP: 17.8°C (64°F). OPEN CUP: 85°C (185°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO<sub>2</sub>).

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat.

### Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Highly explosive in presence of oxidizing materials, of metals, of acids.

### Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: May explode if ignited in an enclosed area.

## 6. ACCIDENTAL RELEASE MEASURES

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

#### Large Spill:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to for explosive concentrations. Vapors can accumulate in low areas.

## 7. HANDLING AND STORAGE

#### Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids.

#### Storage:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

#### Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

#### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

#### Exposure Limits:

United States: TWA: 150 STEL: 200 (ppm) from ACGIH (TLV) [1998] Mexico: TWA: 150 STEL: 187 (ppm) Israel: TWA: 150 (ppm) Australia: TWA: 150 (ppm) Consult local authorities for acceptable exposure limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Liquid.

Odor: Fruity. (Slight.)

Taste: Not available.

Molecular Weight: 116.16 g/mole

Color: Colorless.

pH (1% soln/water): Not available.

Boiling Point: 117.2°C (243°F)

Melting Point: -98.6°C (-145.5°F)

Critical Temperature: 296°C (564.8°F)

Specific Gravity: Not available.

Vapor Pressure: 13 mm of Hg (@ 20°C)

Vapor Density: 4 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.64 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties:

Dispersed in methanol, diethyl ether. See solubility in water, diethyl ether, acetone.

Solubility:

Soluble in hot water, diethyl ether, acetone. Partially soluble in cold water.

## 10. STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Highly reactive with oxidizing agents, metals, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: Not available.

## 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 4763 mg/kg [Rabbit]. Acute dermal toxicity (LD50): 17400 mg/kg [Rabbit].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA. A4 (Not classifiable for human or animal.) by ACGIH.

MUTAGENIC EFFECTS: Classified None. for human. TERATOGENIC EFFECTS: Classified None. for human. The substance is toxic to lungs, upper respiratory tract, eyes, eye, lens or cornea.

Other Toxic Effects on Humans: Very hazardous in case of skin contact (irritant, permeator), of inhalation (lung irritant).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

## 13. DISPOSAL CONSIDERATIONS

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.

## 14. TRANSPORT INFORMATION

DOT Classification: Class 3: Flammable liquid.

Identification: : Isobutyl Acetate : UN 1213 PG: II

Special Provisions for Transport: Not available.

## 15. REGULATORY INFORMATION

Federal and State Regulations:

Rhode Island RTK hazardous substances: Isobutyl acetate Pennsylvania RTK: Isobutyl acetate Florida: Isobutyl acetate Massachusetts RTK: Isobutyl acetate New Jersey: Isobutyl acetate TSCA 8(b) inventory: Isobutyl acetate SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Isobutyl acetate: immediate health hazard CERCLA: Hazardous substances.: Isobutyl acetate

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

DSCL (EEC): R11- Highly flammable.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3 Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.): Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

## 16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall CISCO be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if CISCO has been advised of the possibility of such damages.

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