

Section 1. Product and Company Identification

Product Name Isobutyl Isobutyrate
CAS Number 97-85-8

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
☎ (914) 654-6800 ☎ (914) 654-6899
🌐 parchem.com ✉ info@parchem.com

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

Physical hazards

Flammable liquids: Category 3

Health hazards

Specific target organ toxicity - single exposure: Category 3

OSHA Specified Hazards: Not applicable

GHS Label Elements

Pictograms:



Signal word: WARNING

Hazard and precautionary statements

Hazard Statements

H226: Flammable liquid and vapor.

H336: May cause drowsiness or dizziness.

Precautionary Statements

Prevention

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.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

- P370 + 378: In case of fire: Use water spray, carbon dioxide, dry chemical or foam for extinction.
- P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P235: Keep cool.
- P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None known.

Section 3. Composition / Information on Ingredients

Common Name Isobutyl Isobutyrate
CAS Number 97-85-8

COMPONENT	CAS NUMBER	CONCENTRATION
Isobutyl Isobutyrate	97-85-8	100%

Section 4. First Aid Measures

Description of first-aid measures

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Skin contact: Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: Seek medical advice. Material is not expected to be absorbed from the gastrointestinal tract so that induction of vomiting should not be necessary.

Most important symptoms and effects, both acute and delayed: Narcotic effect.



Indication of any immediate medical attention and special treatment needed

Hazards: Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Treatment: Treat symptomatically.

Section 5. Firefighting Measures

General fire hazards: Combustible liquid and vapor. USE WATER WITH CAUTION. Material will float and may ignite on surface of water.

Extinguishing media

Suitable extinguishing media: Water spray. Dry chemical. Carbon Dioxide. Foam.

Unsuitable extinguishing media: None known.

Special hazards arising from the substance or mixture: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Forms peroxides of unknown stability. Elevated temperatures can cause decomposition.

Advice for firefighters

Special firefighting procedures: Fight fire from a protected location. Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Wear appropriate personal protective equipment.

Environmental precautions: Avoid release to the environment.

Methods and material for containment and cleaning up: Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Section 7. Handling and Storage

Precautions for safe handling: Avoid breathing high vapor concentrations. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Wash thoroughly after handling. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation. Exercise caution if heating, especially in a closed container.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store away from heat and light. Store in a cool place.



Section 8. Exposure Controls / Personal Protection

Control parameters

Occupational exposure limits

Country specific exposure limits have not been established or are not applicable unless listed below.

Chemical Name	Type	Exposure Limit Values
Isobutyl isobutyrate	TWA	100 ppm

Exposure controls

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information:

Eye bath. Washing facilities. Safety shower.

Eye/face protection:

It is a good industrial hygiene practice to minimize eye contact.

Skin protection

Hand protection: It is a good industrial hygiene practice to minimize skin contact. For operations where prolonged or repeated skin contact may occur, chemical-resistant gloves should be worn. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices.

Environmental Controls: No data available.

Section 9. Physical and Chemical Properties

Physical State: Liquid

Form: Liquid

Color: Colorless

Odor: Sweet

Odor Threshold: No data available.

pH: No data available.
Freezing Point: -81°C
Boiling Point: 148°C
Flash Point: 40°C (Tag closed cup)
Evaporation Rate: 0.4
Flammability (solid, gas): No data available.
Flammability Limit - Upper (%): No data available.
Flammability Limit - Lower (%): No data available.
Vapor pressure: 4 hPa (20°C)
Vapor density (air=1): 5
Specific Gravity: 0.852 (25°C)

Solubility(ies)

Solubility in Water: < 0.1 g/l
Solubility (other): No data available.

Partition coefficient (n-octanol/water): Pow: 478.6 log Pow: 2.68
Auto-ignition Temperature: 432°C
Decomposition Temperature: 324.19°C (DSC) 50 KJ/kg 380.13°C (DSC) 293.2 KJ/kg
Dynamic Viscosity: 0.85 mPa.s (25°C)
Kinematic viscosity: 1.030 mm²/s (25°C)
Explosive properties: No data available.
Oxidizing properties: No data available.

Section 10. Stability and Reactivity

Reactivity: May form peroxides of unknown stability.
Chemical stability: stable
Possibility of hazardous reactions: Can decompose at elevated temperatures.
Conditions to avoid: Heat, sparks, flames.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Carbon Monoxide. Carbon Dioxide.

Section 11. Toxicological Information

Information on likely routes of exposure

Inhalation: High vapor concentrations may cause drowsiness.
Ingestion: None known.
Skin contact: Repeated exposure may cause skin dryness or cracking.
Eye contact: None known.

Information on toxicological effects

Acute Toxicity

Oral

Oral LD50: (Rat): 6,400 - 12,800 mg/kg
Oral LD50: (Mouse): 6,400 - 12,800 mg/kg

Dermal

Dermal LD-50: (Rabbit): > 8,600 mg/kg

Inhalation

LC50 (Rat, 4h): 48.18 mg/l

Repeated dose toxicity: No data available.

Skin corrosion/irritation: (Guinea Pig, 24 h): Slight

Serious eye damage/eye irritation: No data available.

Respiratory or skin sensitization: No data available.

Mutagenicity

In vitro: No data available.

In vivo: 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.

Other adverse effects: No data available.

Section 12. Ecological Information

Toxicity

Acute toxicity

Fish: LC-50 (Fathead Minnow, 96 h): 12.54 mg/l

Aquatic invertebrates: EC-50 (Water Flea, 48 h): 55.8 mg/l

Chronic Toxicity

Fish: No data available.

Aquatic invertebrates: No data available.

Toxicity to Aquatic Plants: No data available.

Persistence and degradability

Biodegradation: 42% (28 d)

Biological Oxygen Demand: No data available.

Chemical Oxygen Demand: No data available.

BOD/COD ratio: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments: No data available.



Results of PBT and vPvB assessment: No data available.

Other adverse effects: No data available.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

DOT

Class: 3

Packing group: III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities

Possible Shipping Description(s): Not regulated

UN Number: UN2528

Shipping Name: Combustible liquid (Isobutyl Isobutyrate)

IMDG - International Maritime Dangerous Goods Code

Class: 3

Packing group: III

UN Number: 2528

COMBUSTIBLE LIQUID (ISOBUTYL ISOBUTYRATE) 3 III

IATA

UN Number: UN2528

Class: 3

Packing Group: III

UN 2528 Isobutyl isobutyrate 3 III

Section 15. Regulatory Information

Safety, health, and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: B/3

SARA 311-312 Hazard Classification(s): fire hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List: NONE

OSHA: hazardous



TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.KE-24890

Philippines Inventory (PICCS): This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

HMIS Hazard Ratings:

Health: 1

Flammability: 2

Chemical Reactivity: 1

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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