

Section 1. Product and Company Identification

Product Name Isoprene
CAS Number 78-79-5

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Section 2. Hazards Identification

Classification of the substance or mixture

Flammable liquids (Category 1), H224
Germ cell mutagenicity (Category 2), H341
Carcinogenicity (Category 2), H351
Acute aquatic toxicity (Category 2), H401
Chronic aquatic toxicity (Category 2), H411

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

Hazard Statements

H224 Extremely flammable liquid and vapor.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
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.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/eye protection/face protection.
- P281 Use personal protective equipment as required.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P391 Collect spillage.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition / Information on Ingredients

Common Name Isoprene
Synonym(s) 2-Methyl-1,3-butadiene
Formula C₅H₈
CAS Number 78-79-5

COMPONENT	CAS NUMBER	CONCENTRATION
Isoprene	78-79-5	≤ 100%

Section 4. First Aid Measures

Description of first-aid measures

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

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

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

Eye contact: Flush eyes with water as a precaution.

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

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling and/or in section 11.

Indication of any immediate medical attention and special treatment needed: No data available

Section 5. Firefighting Measures

Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture: Carbon oxides

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: Use water spray to cool unopened containers

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: 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 vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

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).

Reference to other sections: For disposal see section 13.

Section 7. Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. 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, including any incompatibilities: 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

Heat sensitive.

Storage class (TRGS 510): Flammable liquids

Section 8. Exposure Controls / Personal Protection

Control parameters

Components with workplace control parameters

Component	CAS Number	Value	Control Parameters	Basis
Isoprene	78-79-5	TWA	2.000000 ppm	USA Workplace Environmental Exposure Levels (WEEL)

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.

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 full-face respirator with multipurpose combination (US) or type AXBEK (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).

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

Section 9. Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: No data available

Odor Threshold: No data available

pH: No data available

Melting point/range: -146°C (-231°F) - lit.

Initial boiling point and boiling range: 34°C (93°F) - lit.

Flash point: -53.99°C (-65.18°F)

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits

Upper explosion limit: 8.9% (V)

Lower explosion limit: 1.5% (V)

Vapor pressure: 634 hPa (476 mmHg) at 21.1°C (70.0°F)

Vapor density: No data available

Relative density: 0.681 g/cm³ at 25°C (77°F)

Water solubility: 0.642 g/L at 25°C (77°F) - soluble

Partition coefficient (n-Octanol/Water): log Pow: 3.2 - 4.5 at 20°C (68°F)

Auto-ignition temperature: 395°C (743°F) at 1,013 hPa (760 mmHg)

Decomposition temperature: No data available



Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

Other safety information: No data available

Section 10. Stability and Reactivity

Reactivity: No data available
Chemical stability: Stable under recommended storage conditions.
Contains the following stabilizer(s): 4-tert-Butylpyrocatechol (≥ 100 - ≤ 150 ppm)
Possibility of hazardous reactions: Vapors may form explosive mixture with air.
Conditions to avoid: Heat, flames and sparks.
Incompatible materials: Oxidizing agents, Strong bases, Ammonia, Alkali metals, Alcohols, Oxygen

Hazardous decomposition products

Other decomposition products: No data available
In the event of fire: see section 5

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity: No data available
Inhalation: No data available
Dermal: 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: May alter genetic material.

In vitro tests showed mutagenic effects
Mouse - male
Result: Negative

Carcinogenicity

Carcinogenicity - Rat - male and female - inhalation (vapor)
adenofibrosis Tumorigenic Effects: Testicular tumors. liver cell tumors
This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.
Possible human carcinogen

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Isoprene)

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: Reasonably anticipated to be a human carcinogen (Isoprene)

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

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

Repeated dose toxicity - Rat - male and female - Inhalation

RTECS: Not available

Inhalation of vapors may cause: Dizziness, Irregular cardiac activity, narcosis, Nausea, Asphyxia, CNS depression with hypertension or circulatory failure, and respiratory depression. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Section 12. Ecological Information

Toxicity

Toxicity to fish semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 7.43 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - *Daphnia magna* (Water flea) - 5.77 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae static test EC50 - *Pseudokirchneriella subcapitata* (green algae) - 15.3 mg/l - 96 h
(OECD Test Guideline 201)

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 2 - 58 % - Not readily biodegradable.

(OECD Test Guideline 301D)

Bioaccumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects.



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 (US)

UN number: 1218

Class: 3

Packing group: I

Proper shipping name: Isoprene, stabilized

Reportable Quantity (RQ): 100 lbs

Poison Inhalation Hazard: No

IMDG

UN number: 1218

Class: 3

Packing group: I

EMS-No: F-E, S-D

Proper shipping name: Isoprene, Stabilized

IATA

UN number: 1218

Class: 3

Packing group: I

Proper shipping name: Isoprene, stabilized

Section 15. Regulatory Information

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

SARA 313 Components: 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, Chronic Health Hazard

Massachusetts Right to Know Components

Isoprene (CAS-No. 78-79-5)

Revision Date: 1993-04-24

Pennsylvania Right to Know Components

Isoprene (CAS-No. 78-79-5)

Revision Date: 1993-04-24



New Jersey Right to Know Components

Isoprene (CAS-No. 78-79-5)

Revision Date: 1993-04-24

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Isoprene (CAS-No. 78-79-5)

Revision Date: 2007-09-28

HMIS Rating

Health: 0*

Flammability: 4

Reactivity: 0

NFPA Rating

Health: 0

Flammability: 4

Reactivity: 0

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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