



Safety Data Sheet

Version 7.0
Revision Date: 08/02/2019

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **Deuterated isoprene**
Product abbreviation: d5Ip, d7Ip, d8Ip
Product use: For laboratory research purposes.
Supplier / Manufacturer: Polymer Source, Inc.
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2. HAZARDS IDENTIFICATION

Emergency overview: Target organs: Central nervous system.
WHMIS classification: B2. Flammable liquid.
D2A. Very toxic material causing other toxic effects: Chronic toxicity.
D2B. Toxic material causing other toxic effects: Teratogen. Carcinogen. Moderate skin irritant. Moderate eye irritant.
GHS classification: Flammable liquids (Category 1)
Germ cell mutagenicity (Category 2)
Carcinogenicity (Category 1B)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements:

Pictogram:



Signal word: Danger

Hazard statements: H224. Extremely flammable liquid and vapour.
H341. Suspected of causing genetic defects.
H350. May cause cancer.
H411. Toxic to aquatic life with long lasting effects.

Precautionary statements: P201. Obtain special instructions before use.

P210. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P273. Avoid release to the environment.

P281. Use personal protective equipment as required.

P303 + P361 + P353. *IF ON SKIN (or hair):*
Take off immediately all contaminated clothing.
Rinse skin with water.

P308 + P313. *IF exposed or concerned:*
Get medical advice/ attention.

HMIS classification:	Health hazard:	0
	Chronic health hazard:	*
	Flammability:	4
	Physical hazards:	0
Potential health effects:	Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
	Skin:	May be harmful if absorbed through skin. May cause skin irritation.
	Eyes:	May cause eye irritation.
	Ingestion:	May be harmful if swallowed.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Formula:	Isoprene-d ₈ :	C ₅ D ₈
	Isoprene-d ₇ :	C ₅ D ₇ H
	Isoprene-d ₅ :	C ₅ D ₅ H ₃
Synonyms:	Deuterated 2-methyl-1,3-butadiene	
Concentration:	≤ 100 %	
CAS registry number:	Deuterated isoprene:	n/a
	Isoprene (C ₅ H ₈):	78-79-5

4. FIRST AID MEASURES

General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If inhaled:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact:	Wash off with soap and plenty of water. Consult a physician.
In case of eye contact:	Flush eyes with water as a precaution.
If swallowed:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Conditions of flammability:	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat / sparks / open flame / hot surface. No smoking.
Suitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for firefighters:	Wear self contained breathing apparatus for firefighting if necessary.
Hazardous combustion products:	Hazardous decomposition products formed under fire conditions: Carbon oxides.
Explosion data:	Sensitivity to mechanical impact: no data available Sensitivity to static discharge: no data available
Further information:	Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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).

7. HANDLING AND STORAGE

Precautions for safe handling:	Avoid contact with skin and eyes. Avoid inhalation of vapour 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:	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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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 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).

- 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: 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.
- Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Specific engineering controls: Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form:	Liquid
	Colour:	Colourless
Safety data:	pH:	no data available
	Melting point / Freezing point:	no data available
	Bolting point:	no data available
	Flash point:	no data available
	Ignition temperature:	no data available
	Auto-ignition temperature:	no data available
	Lower explosion limit:	no data available
	Upper explosion limit:	no data available
	Vapour pressure:	no data available
	Density:	no data available
	Water solubility:	no data available
	Partition coefficient: n-octanol/water:	no data available
	Relative vapour density:	no data available
	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.
Radioactivity:	Stable isotope compound. Not radioactive.
Possibility of hazardous reactions:	Vapours may form explosive mixture with air.

Conditions to avoid:	Heat, flames and sparks.
Materials to avoid:	Oxidizing agents. Strong bases. Ammonia. Alkali metals. Alcohols. Oxygen.
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:	no data available
	Inhalation LC50:	no data available
	Dermal LD50:	no data available
	Other information on acute toxicity:	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	
Carcinogenicity:	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:	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.
Reproductive toxicity:	no data available	
Teratogenicity:	no data available	
Specific target organ toxicity:	Single exposure (Globally Harmonized System):	no data available
	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:	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.	

Synergistic effects: no data available
Additional information: RTECS: not available

12. ECOLOGICAL INFORMATION

Toxicity: no data available
Persistence and degradability: no data available
Bioaccumulative potential: no data available
Mobility in soil: no data available
PBT and vPvB assessment: no data available
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.

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: 1218
Class: 3
Packing group: I
Proper shipping name: Isoprene-d
Reportable Quantity (RQ): 100 lbs
Marine pollutant: No
Poison Inhalation Hazard: No
IMDG: UN number: 1218
Class: 3
Packing group: I
EMS-No: F-E, S-D
Proper shipping name: Isoprene-d
Marine pollutant: No
IATA: UN number: 1218
Class: 3
Packing group: I
Proper shipping name: Isoprene-d

15. REGULATORY INFORMATION

WHMIS classification:	B2	Flammable liquid.
	D2A.	Very toxic material causing other toxic effects: Chronic toxicity.
	D2B.	Toxic material causing other toxic effects: Teratogen. Carcinogen. Moderate skin irritant. Moderate eye irritant.

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

16. OTHER INFORMATION

Date of the latest revision:	8 February 2019
Further information:	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. Polymer Source, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See www.polymersource.ca for additional terms and conditions of sale.