



Safety Data Sheet

Version 7.0
Revision Date: 08/02/2019

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Deuterium oxide
Product abbreviation: D2O
Product use: For laboratory research purposes.
Supplier / Manufacturer: Polymer Source, Inc.
Address: 124 Avro street, Dorval (Montreal), Quebec H9P 2X8, Canada
Telephone: (+1) 514-421-5517
Toll free: 1-866-422-9842
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E-mail: info@polymersource.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture: Not a hazardous substance or mixture.
GHS Label elements, including precautionary statements: Not a hazardous substance or mixture.
Hazards not otherwise classified (HNOC) or not covered by GHS: None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Formula: D₂O
Synonyms: Deuterium oxide, Heavy water, Water-d₂
Molecular weight: 20.03 g/mol
Concentration: ≤ 100 %
CAS registry number: 7789-20-0
EC-No.: 232-148-9

4. FIRST AID MEASURES

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact: Wash off with soap and plenty of water.
In case of eye contact: Flush eyes with water as a precaution.
If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Conditions of flammability:	Not flammable.
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:	Non combustible liquid.
Explosion data:	Sensitivity to mechanical impact: no data available Sensitivity to static discharge: no data available
Further information:	No data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid breathing vapours, mist or gas.
Environmental precautions:	Do not let product enter drains.
Methods and materials for containment and cleaning up:	Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling:	Normal measures for preventive fire protection.
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. Store under inert gas. Hygroscopic. Storage class (TRGS 510): Non combustible liquids.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate engineering controls:	General industrial hygiene practice.
Personal protective equipment:	
• Eye/face protection:	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:	Use impervious 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:	Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
• Control of environmental exposure:	Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form:	Liquid
	Colour:	Colorless
Safety data:	pH:	no data available
	Melting point / Freezing point:	3.8 °C (lit.)
	Boling point:	101.4 °C (lit.)
	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:	1.107 g/cm ³ (lit.)
	Water solubility:	100% miscible
	Partition coefficient: n-octanol/water:	no data available
	Relative vapour density:	no data available
	Odour:	no odour
	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.
Reactivity:	no data available
Possibility of hazardous reactions:	no data available
Conditions to avoid:	Exposure to moisture.
Incompatible materials:	no data available
Hazardous decomposition products:	In the event of fire: see section 5.

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:	no data available
Carcinogenicity:	<p>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.</p> <p>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.</p>
Reproductive toxicity:	no data available
Teratogenicity:	no data available
Specific target organ toxicity:	<p>Single exposure (GHS): no data available</p> <p>Repeated exposure (GHS): no data available</p>
Aspiration hazard:	no data available
Additional information:	<p>RTECS: ZC0230000</p> <p>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p>

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:	PBT/vPvB assessment not available as chemical safety assessment not required or not conducted.
Other adverse effects:	no data available

13. DISPOSAL CONSIDERATIONS

Product:	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging:	Dispose of as unused product.

14. TRANSPORT INFORMATION

TDG (Canada):	Not dangerous goods.
IMDG:	Not dangerous goods.
IATA:	Not dangerous goods.

15. REGULATORY INFORMATION

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.