

SAFETY DATA SHEET

according to the Global Harmonized System

Deuterium chloride in D2O

1. Identification of the substance/preparation and of the company/undertaking

Use of the Substance/Preparation	Solvent for NMR spectroscopy Chemical reaction medium
Company/Undertaking Identification	ARMAR AG Müligasse 7 CH-5312 Döttingen Schweiz Tel. +41 56 245 2600 admin@armar.ch
Emergency telephone number	Tox-Zentrum Zürich : 145 / +41 44 251 51 51 [24h/7d]
Revision Date	24.03.2010
Version	GHS 1

2. Hazards identification



DANGER!

Serious eye damage/eye irritation, Cat. 1
Specific target organ toxicity (single exposure, inhalation), Cat. 3
Skin corrosion/irritation, Cat. 1B

3. Composition/information on ingredients

Components		Health hazards	CAS	REACH No.
Deuterium chloride	20% - 25%	Csk1B SSEIn3	7698-05-7	
Deuterium oxide	50% - 75%		7789-20-0	

4. First aid measures

Inhalation	Move to fresh air. Consult a physician after significant exposure.
Skin contact	Wash off immediately with plenty of water. Consult a physician for severe cases.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Protect unharmed eye.
Ingestion	If conscious, drink plenty of water. Prevent vomiting if possible. Consult a physician for severe cases.

5. Fire-fighting measures

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards	The product is not flammable.
Special protective equipment for firefighters	Standard procedure for chemical fires.
Specific methods	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. Accidental release measures

Environmental precautions	No special environmental precautions required.
Methods for cleaning up	Clean up promptly by sweeping or vacuum. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). After cleaning, flush away traces with water.

7. Handling and storage

Handling	Plan first aid action before beginning work with this product. Wear personal protective equipment.
Storage	Store at room temperature in the original container.

8. Exposure controls / personal protection

Occupational exposure controls	Avoid contact with skin, eyes and clothing.
Personal protection equipment	
Respiratory protection	In the case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Hand protection	Gloves made of Chloroprene.
Eye protection	Safety glasses with side-shields conforming to EN 166.
Skin and body protection	Wear as appropriate: Impervious clothing.

9. Physical and chemical properties

Form	Liquid.
Colour	Colourless.
Odour	Stinging.
Physical and chemical properties	pH: < 1 . Water solubility: completely soluble Melting point/range: -50 °C. Boiling point/range: 108 °C. Density: 1.2 - 1.3 g/ml. Vapour pressure: 2100 Pa (20 °C).

10. Stability and reactivity

Stability	No decomposition if used as directed.
Conditions to avoid	Heating in air. Burning produces obnoxious and toxic fumes.
Materials to avoid	Corrodes base metals. Incompatible with strong bases and oxidizing agents.
Hazardous decomposition products	None under normal use.

11. Toxicological information

Acute toxicity	LC50/inhalation/rat 4700 ppm. Deuterium oxide None.
Local effects	Irritating to respiratory system. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Causes burns. Extremely corrosive and destructive to tissue.
Long term toxicity	Negligible.
Sensitization	None.

12. Ecological information

Ecotoxicity	LC50/48h/golden orfe = 862 mg/l. May change pH of waters. Deuterium oxide None.
Persistence / degradability	Neutralization is normally necessary before waste water is discharged into water treatment plants.
Bioaccumulative potential	Does not bioaccumulate.

13. Disposal considerations

Waste from residues / unused products	Taking into account local regulations the product may be disposed of as waste water after neutralisation.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities.

14. Transport information

ADR/RID	Proper shipping name HYDROCHLORIC ACID UN No 1789. Class 8. Packing group II. ADR/RID-Labels 8. Classification code C1. Risk No. 80. Limited quantity LQ22. Tunnel code E
IMO	Proper shipping name Hydrochloric acid UN No 1789. Class 8. Packing group II. ADR/RID-Labels 8. Limited quantity 1 L. EmS F-A, S-B.

ICAO Proper shipping name Hydrochloric acid
UN No 1789.
Class 8.
Packing group II.
Packing instruction (passenger aircraft): 809 (1 L).
Packing instruction (LQ): Y809 (0.5 L).
Packing instruction (cargo aircraft): 813 (30 L).

15. Regulatory information

GHS-Classification
Signal Word DANGER!
Hazard Statements Causes severe skin burns and eye damage.
May cause respiratory irritation.
Precautionary Statements Do not breathe dust/fume/gas/mist/vapours/spray.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container to an approved waste disposal plant.
GHS product identifier Deuterium chloride, CAS-No. 7698-05-7, EC-No. 231-715-8
Deuterium oxide, CAS-No. 7789-20-0, EC-No. 232-148-9
EC-Symbol(s) C - Corrosive.
R-phrase(s) R34: Causes burns.
R37: Irritating to respiratory system.
S-phrase(s) S23: Do not breathe vapour
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39: Wear suitable protective clothing, gloves and eye / face protection.
Hazardous components which must be listed on the label Deuterium chloride, CAS-No. 7698-05-7, EC-No. 231-715-8
Regulatory Information The product is classified and labelled according to Regulation (EC) No. 1272/2008 (GHS/CLP).
The product is classified and labelled in accordance with Directive 1999/45/EC.

16. Other information

Recommended use	Solvent for NMR spectroscopy Chemical reaction medium. For industrial application only.
GHS-Classification	CSk1B: Skin corrosion/irritation, Cat. 1B SSEIn3: Specific target organ toxicity (single exposure, inhalation), Cat. 3
Further information	Take notice of the directions of use on the label.
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release. It is not to be considered a warranty or quality specification.