

SAFETY DATA SHEET

according to the Global Harmonized System

Deuterium

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

Use of the Substance/Preparation	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	22.04.2010
Version	GHS 1

2. Hazards identification



DANGER!

Flammable gases, Cat. 1

3. Composition/information on ingredients

Components		Health hazards	CAS	REACH No.
Deuterium	> 90%	Fgas1	7782-39-0	

4. First aid measures

Inhalation	Move to fresh air. Consult a physician after significant exposure.
Skin contact	No special measures required.
Eye contact	No special measures required.

5. Fire-fighting measures

Suitable extinguishing media	Use dry chemical, CO ₂ , water spray or alcohol foam.
Extinguishing media which must not be used for safety reasons	High volume water jet.
Specific hazards	Cool containers / tanks with water spray.
Special protective equipment for firefighters	Standard procedure for chemical fires.

6. Accidental release measures

Personal precautions	Remove all sources of ignition. Pay attention to flashback.
Environmental precautions	No special environmental precautions required.

7. Handling and storage

Handling	Vapours may form explosive mixtures with air. Use only in well-ventilated areas. Keep away from open flames, hot surfaces and sources of ignition. Use only explosion-proof equipment.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Personal protection equipment	
Eye protection	Safety glasses.

9. Physical and chemical properties

Form	Compressed gas.
Colour	Colourless.
Odour	Odorless

10. Stability and reactivity

Stability	No decomposition if used as directed.
Conditions to avoid	Heating in air.
Materials to avoid	Incompatible with strong bases and oxidizing agents.
Hazardous decomposition products	None under normal use.

11. Toxicological information

Local effects	Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Long term toxicity	Negligible.
Sensitization	None.
Human experience	No data is available on the product itself. Excessive exposures may affect human health, as follows: .

12. Ecological information

Bioaccumulative potential	Does not bioaccumulate.
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13. Disposal considerations

Waste from residues / unused products	Can be used without re-conditioning.
Contaminated packaging	Empty pressure vessels should be returned to the supplier.

14. Transport information

ADR/RID	Proper shipping name DEUTERIUM, COMPRESSED UN No 1957. Class 2. ADR/RID-Labels 2.1. Classification code 1F. Risk No. 23. Limited quantity LQ0. Tunnel code B/D
IMO	Proper shipping name Deuterium, compressed UN No 1957. Class 2.1. Packing group -. ADR/RID-Labels 2.1. Limited quantity Keine. EmS F-D, S-U.
ICAO	Proper shipping name Deuterium, compressed UN No 1957. Class 2.1. Packing instruction (passenger aircraft): Forbidden. Packing instruction (LQ): –. Packing instruction (cargo aircraft): 200 (150 kg).

15. Regulatory information

GHS-Classification	
Signal Word	DANGER!
Hazard Statements	Extremely flammable gas.
Precautionary Statements	Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Store in a well-ventilated place.
GHS product identifier	Deuterium, CAS-No. 7782-39-0, EC-No. 231-952-7
EC-Symbol(s)	F+ - Extremely flammable.
R-phrase(s)	R12: Extremely flammable.
S-phrase(s)	S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking. S33: Take precautionary measures against static discharges.

16. Other information

Recommended use	For research use only. For industrial application only.
GHS-Classification	Fgas1: Flammable gases, Cat. 1
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.