

SAFETY DATA SHEET

according to the Global Harmonized System

Diethyl ether-d10

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

Use of the Substance/Preparation	Solvent for NMR spectroscopy
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!

Specific target organ toxicity (single exposure, narcotic effects), Cat. 3
Flammable liquids, Cat. 1
{EUH019} May form explosive peroxides.
{EUH066} Repeated exposure may cause skin dryness or cracking.

3. Composition/information on ingredients

Components	Health hazards	CAS	REACH No.
Diethyl ether-d10	SSEnarc3 Fliq1 EUH019 EUH066	2679-89-2	

4. First aid measures

Inhalation	Move to fresh air. Consult a physician after significant exposure.
Skin contact	Wash with water and soap as a precaution.
Eye contact	Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.
Ingestion	If conscious, drink plenty of water. Consult a physician if necessary.

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	Solvents may produce excessive pressure under fire-conditions. Sealed containers may rupture and ignite. Cool containers / tanks with water spray. Burning produces irritant fumes.
Special protective equipment for firefighters	Standard procedure for chemical fires.
Specific methods	Do not use a solid water stream as it may scatter and spread fire.

6. Accidental release measures

Personal precautions	Remove all sources of ignition. Pay attention to flashback.
Environmental precautions	Do not flush into surface water or sanitary sewer system.
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).

7. Handling and storage

Handling	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure limit(s)	MAK (Maximale Arbeitsplatzkonzentration): 400 ppm.
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 Nitril.
Eye protection	Safety glasses.
Skin and body protection	Wear as appropriate: Solvent-resistant apron and boots.

9. Physical and chemical properties

Form	Liquid.
Colour	Colourless.
Odour	Characteristic.
Physical and chemical properties	Flash point: -45 °C. Water solubility: 69 g/l. Fat solubility: completely soluble Melting point/range: -116 °C. Boiling point/range: 35 °C. Density: 0.8 g/ml. Vapour pressure: 59700 Pa (20 °C). Explosion limits (lower): 1.7 %. Explosion limits (upper): 48 %.

10. Stability and reactivity

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

11. Toxicological information

Acute toxicity	LC50/inhalation/1h/rat = 20 mg/l. LD50/oral/rat < 2000 mg/kg.
Local effects	Harmful if swallowed. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Long term toxicity	Negligible.
Sensitization	None.
Human experience	Excessive exposures may affect human health, as follows: Narcosis..

12. Ecological information

Ecotoxicity	EC50/48h/daphnia = 100 mg/l. LC50/48h/golden orfe = 2840 mg/l.
Persistence / degradability	Readily biodegradable.
Bioaccumulative potential	Accumulation in aquatic organisms is unlikely.

13. Disposal considerations

Waste from residues / unused products	Can be incinerated, when in compliance with local regulations.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities.

14. Transport information

ADR/RID	Proper shipping name DIETHYL ETHER (ETHYL ETHER) UN No 1155. Class 3. Packing group I. ADR/RID-Labels 3. Classification code F1. Risk No. 33. Limited quantity LQ3. Tunnel code D/E
IMO	Proper shipping name Diethyl ether (Ethyl ether) UN No 1155. Class 3. Packing group I. ADR/RID-Labels 3. Limited quantity Keine. EmS F-E, S-D.

ICAO Proper shipping name Diethyl ether (Ethyl ether)
UN No 1155.
Class 3.
Packing group I.
Packing instruction (passenger aircraft): 302 (1 L).
Packing instruction (LQ): –.
Packing instruction (cargo aircraft): 303 (30 L).

15. Regulatory information

GHS-Classification
Signal Word DANGER!
Hazard Statements Extremely flammable liquid and vapour.
May cause drowsiness and dizziness.
Precautionary Statements Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
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.
Rinse mouth.
In case of fire: Use carbon dioxide (co2) for extinction.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container to an approved waste disposal plant.
GHS product identifier Diethyl ether-d10, CAS-No. 2679-89-2
EC-Symbol(s) F+ - Extremely flammable.
Xn - Harmful.
R-phrase(s) R12: Extremely flammable.
R19: May form explosive peroxides.
R22: Harmful if swallowed.
R66: Repeated exposure may cause skin dryness or cracking.
R67: Vapours may cause drowsiness and dizziness.
S-phrase(s) S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.
S29: Do not empty into drains.
S33: Take precautionary measures against static discharges.
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
GHS-Classification	SSENarc3: Specific target organ toxicity (single exposure, narcotic effects), Cat. 3 Fliq1: Flammable liquids, 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.