

# SAFETY DATA SHEET

according to the Global Harmonized System

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## Tetrahydrofuran-d8

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### 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 <a href="mailto:admin@armar.ch">admin@armar.ch</a>
Emergency telephone number	Tox-Zentrum Zürich : 145 / +41 44 251 51 51 [24h/7d]
Revision Date	24.03.2010
Version	GHS 1

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### 2. Hazards identification



DANGER!

Specific target organ toxicity (single exposure, inhalation), Cat. 3  
Serious eye damage/eye irritation, Cat. 2  
Flammable liquids, Cat. 2  
{EUH019} May form explosive peroxides.

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### 3. Composition/information on ingredients

Components		Health hazards	CAS	REACH No.
Tetrahydrofuran-d8	> 90%	CEy2 SSEIn3 Fliq2 EUH019	1693-74-9	

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## 4. First aid measures

<b>Inhalation</b>	Move to fresh air. Consult a physician after significant exposure.
<b>Skin contact</b>	Wash with water and soap as a precaution.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting. Consult a physician if necessary.

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## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use dry chemical, CO <sub>2</sub> , water spray or alcohol foam.
<b>Extinguishing media which must not be used for safety reasons</b>	High volume water jet.
<b>Specific hazards</b>	Solvents may produce excessive pressure under fire-conditions. Sealed containers may rupture and ignite. Cool containers / tanks with water spray. Burning produces irritant fumes.
<b>Special protective equipment for firefighters</b>	Standard procedure for chemical fires.
<b>Specific methods</b>	Do not use a solid water stream as it may scatter and spread fire.

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## 6. Accidental release measures

<b>Personal precautions</b>	Remove all sources of ignition. Pay attention to flashback.
<b>Environmental precautions</b>	Do not flush into surface water or sanitary sewer system.
<b>Methods for cleaning up</b>	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.

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## 7. Handling and storage

<b>Handling</b>	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.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

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## **8. Exposure controls / personal protection**

<b>Exposure limit(s)</b>	MAK (Maximale Arbeitsplatzkonzentration): 50 ppm.
<b>Occupational exposure controls</b>	Avoid contact with skin, eyes and clothing.
<b>Personal protection equipment</b>	
<b>Respiratory protection</b>	In the case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
<b>Hand protection</b>	Gloves made of Nitril.
<b>Eye protection</b>	Safety glasses.
<b>Skin and body protection</b>	Wear as appropriate: Solvent-resistant apron and boots.

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## **9. Physical and chemical properties**

<b>Form</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Acetone-like.
<b>Physical and chemical properties</b>	pH: not applicable. Flash point: -17.5 °C. Water solubility: completely soluble Melting point/range: -108 °C. Boiling point/range: 64 °C. Density: 0.99 g/ml (20 °C). Vapour pressure: 20000 Pa (20 °C). Explosion limits (lower): 1.5 %. Explosion limits (upper): 12.4 %.

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## **10. Stability and reactivity**

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

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## 11. Toxicological information

<b>Acute toxicity</b>	<b>Tetrahydrofurane-D8</b> LD50/oral/rat = 1650 mg/kg.
<b>Local effects</b>	Irritating to eyes and respiratory system. May cause skin irritation with susceptible persons. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
<b>Long term toxicity</b>	Negligible.
<b>Sensitization</b>	None.

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## 12. Ecological information

<b>Ecotoxicity</b>	EC50/48h/daphnia = 5930 mg/l. LC50/48h/golden orfe = 2820 mg/l.
<b>Persistence / degradability</b>	Readily biodegradable.
<b>Bioaccumulative potential</b>	Does not bioaccumulate.

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## 13. Disposal considerations

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

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## 14. Transport information

<b>ADR/RID</b>	Proper shipping name TETRAHYDROFURAN UN No 2056. Class 3. Packing group II. ADR/RID-Labels 3. Classification code F1. Risk No. 33. Limited quantity LQ4. Tunnel code D/E
<b>IMO</b>	Proper shipping name Tetrahydrofuran UN No 2056. Class 3. Packing group II. ADR/RID-Labels 3. Limited quantity 1 L. EmS F-E, S-D.

<b>ICAO</b>	Proper shipping name Tetrahydrofuran UN No 2056. Class 3. Packing group II. Packing instruction (passenger aircraft): 305 (5 L). Packing instruction (LQ): Y305 (1 L). Packing instruction (cargo aircraft): 307 (60 L).
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## 15. Regulatory information

<b>GHS-Classification</b>	
<b>Signal Word</b>	DANGER!
<b>Hazard Statements</b>	Highly flammable liquid and vapour. Causes serious eye irritation. May cause respiratory irritation.
<b>Precautionary Statements</b>	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. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. 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. Call a POISON CENTER or doctor/physician if you feel unwell. If eye irritation persists: Get medical advice/attention. Store in a well-ventilated place. Keep cool. Dispose of contents/container to an approved waste disposal plant.
<b>GHS product identifier</b>	Tetrahydrofuran-d8, CAS-No. 1693-74-9, EC-No. 216-898-4
<b>EC-Symbol(s)</b>	F - Highly flammable. Xi - Irritant.
<b>R-phrase(s)</b>	R11: Highly flammable. R19: May form explosive peroxides. R36/37: Irritating to eyes and respiratory system.
<b>S-phrase(s)</b>	S16: Keep away from sources of ignition - No smoking. S29: Do not empty into drains. S33: Take precautionary measures against static discharges.
<b>Regulatory Information</b>	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.

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## 16. Other information

<b>Recommended use</b>	Solvent for NMR spectroscopy
<b>GHS-Classification</b>	CEy2: Serious eye damage/eye irritation, Cat. 2 SSEIn3: Specific target organ toxicity (single exposure, inhalation), Cat. 3 Fliq2: Flammable liquids, Cat. 2
<b>Further information</b>	Take notice of the directions of use on the label.
<b>Disclaimer</b>	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.