

SAFETY DATA SHEET

according to the Global Harmonized System

Ethanol-d1

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 liquids, Cat. 2

3. Composition/information on ingredients

Components		Health hazards	CAS	REACH No.
Ethanol-d1	> 90%	Fliq2	925-93-9	

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	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	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	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): 500 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 Chloroprene.
Eye protection	Safety glasses.

9. Physical and chemical properties

Form	Liquid.
Colour	Colourless.
Odour	Alcoholic.
Physical and chemical properties	Flash point: 14 °C. Water solubility: completely soluble Fat solubility: completely soluble Melting point/range: -130 °C. Boiling point/range: 78 °C. Density: 0.81 g/ml. Vapour pressure: 5850 Pa (20 °C). Explosion limits (lower): 3.5 %. Explosion limits (upper): 15 %.

10. Stability and reactivity

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

11. Toxicological information

Acute toxicity	Ethyl alcohol-D(1) (monodeuterated ethanol) LD50/dermal/rabbit = > 20000 mg/kg. LD50/oral/rat = 6200 mg/kg.
Local effects	Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Long term toxicity	Negligible.
Sensitization	None.

12. Ecological information

Ecotoxicity	EC50/48h/daphnia > 10000 mg/l . LC50/48h/golden orfe = 15800 mg/l.
Persistence / degradability	Readily biodegradable.
Bioaccumulative potential	Does not bioaccumulate.

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 ETHANOL (ETHYL ALCOHOL) UN No 1170. Class 3. Packing group II. ADR/RID-Labels 3. Classification code F1. Risk No. 33. Limited quantity LQ4. Tunnel code D/E
IMO	Proper shipping name Ethanol (Ethyl alcohol) UN No 1170. Class 3. Packing group II. ADR/RID-Labels 3. Limited quantity 1 L. EmS F-E, S-D.

ICAO	Proper shipping name Ethanol (Ethyl alcohol) UN No 1170. 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

GHS-Classification	
Signal Word	DANGER!
Hazard Statements	Highly flammable liquid and vapour.
Precautionary Statements	Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Take precautionary measures against static discharge. 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. Store in a well-ventilated place. Keep cool. Dispose of contents/container to an approved waste disposal plant. Ground/bond container and receiving equipment. Keep container tightly closed.
GHS product identifier	Ethanol-d1, CAS-No. 925-93-9, EC-No. 213-128-9
EC-Symbol(s)	F - Highly flammable.
R-phrase(s)	R11: Highly flammable.
S-phrase(s)	S7: Keep container tightly closed. S16: Keep away from sources of ignition - No smoking.
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	Chemical intermediate.
GHS-Classification	Fliq2: Flammable liquids, Cat. 2
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.