

SAFETY DATA SHEET

according to Regulation (EU) No. 453/2010

Methanol-d4**1. Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

CAS-No.	811-98-3
EC-No.	212-378-6
Product code	None.
Synonyms	None.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Preparation	Solvent for NMR spectroscopy
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1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification	ARMAR AG Müligasse 7 CH-5312 Döttingen Schweiz Tel. +41 56 245 2600 admin@armar.ch
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1.4. Emergency telephone number	Tox-Zentrum Zürich : 145 / +41 44 251 51 51 [24h/7d]
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Version	GHS 2
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2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (GHS/CLP)

Acute toxicity, inhal., Vapours, Cat. 3, H331
Acute toxicity, dermal, Cat. 3, H311
Acute toxicity, oral, Cat. 3, H301
Specific target organ toxicity (single exposure, inhalation), Cat. 1, H370inh
Specific target organ toxicity (single exposure, dermal), Cat. 1, H370derm
Specific target organ toxicity (single exposure, oral), Cat. 1, H370oral
Flammable liquids, Cat. 2, H225

Classification according to EU Directives 67/548/EEC or 1999/45/EC

F; R11
T; R23/24/25
T; R39/23/24/25

Additional information

For the full text of the phrases mentioned in this Section, see Section 16.

2.2. Label elements



**Signal Word
Hazard Statements**

Danger
H225: Highly flammable liquid and vapour.
H301+H311+H331: Toxic if swallowed, in contact with skin or if inhaled.
H370derm: Causes damage to organs in contact with skin.
H370inh: Causes damage to organs if inhaled.
H370oral: Causes damage to organs if swallowed.

Precautionary statements

P210b: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.
P243: Take precautionary measures against static discharge.
P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264b: Wash face, hands and any exposed skin thoroughly after handling.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303+P361+P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P307+P311: IF exposed: Call a POISON CENTER or doctor/ physician.
P403+P235: Store in a well-ventilated place. Keep cool.
P501: Dispose of contents/ container to an approved waste disposal plant.

Additional advice

None.

GHS product identifier

Methanol-d4, CAS-No. 811-98-3, EC-No. 212-378-6

Labelling according to Directives 67/548/EEC or 1999/45/EC



F - Highly flammable.
T - Toxic.

R-phrase(s)

R11: Highly flammable.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

S-phrase(s)

S7: Keep container tightly closed.
S16: Keep away from sources of ignition - No smoking.
S36/37: Wear suitable protective clothing and gloves.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazardous component(s) which must be listed on the label

None.

2.3. Other hazards

No information available.

3. Composition/information on ingredients

Components		Product identifier
Methanol-d4	> 90%	CAS-No.: 811-98-3 EC-No.: 212-378-6

For the full text of the phrases mentioned in this Section, see Section 16.

Hazardous impurities

None known.

4. First aid measures

4.1. Description of first aid measures

Inhalation	Move to fresh air. Consult a physician after significant exposure.
Skin contact	Wash off immediately with soap and plenty of water.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
Ingestion	Immediately give plenty of water (if possible charcoal slurry). Consult a physician for severe cases.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms of poisoning may only appear several hours later.
Anticipated acute effects: Blurred vision.

4.3. Indication of any immediate medical attention and special treatment needed None known.

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use dry chemical, CO₂, water spray or alcohol foam.

Extinguishing media which must not be used for safety reasons High volume water jet.

5.2. Special hazards arising from the substance or mixture Solvents may produce excessive pressure under fire-conditions. Sealed containers may rupture and ignite. Cool containers / tanks with water spray. Burning produces irritant fumes.

5.3. Advice for firefighters

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. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel Remove all sources of ignition. Pay attention to flashback. Use personal protective equipment.

Advice for emergency responders Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

7. Handling and storage

7.1. Precautions for safe 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. Wear personal protective equipment. Handle and open container with care. Ingestion, exposure to skin and eyes and inhalation of any generated vapours should be avoided.
7.2. Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only.
7.3. Specific end use(s)	No information available.

8. Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s) MAK (Maximale Arbeitsplatzkonzentration): 200 ppm.

8.2. Exposure controls

Occupational exposure controls Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace.

Personal protection equipment

Respiratory protection In the case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection Gloves made of Nitril.

Eye protection Safety glasses with side-shields conforming to EN 166. Eye wash bottle with pure water.

Skin and body protection Wear as appropriate: Solvent-resistant apron and boots. Impervious clothing.

Thermal hazards No special measures required.

Environmental exposure controls No special measures required.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Liquid.
Colour	Colourless.
Odour	Alcoholic.
Odour Threshold	No information available.
pH:	No information available.
Melting point/range:	-98°C
Boiling point/range:	65°C
Flash point:	9°C
Evaporation Rate:	No information available.
Flammability:	No information available.
Explosion limits:	50 Vol% / 6 Vol%
Vapour pressure:	129 mbar/20°C
Vapor density:	1.10
Relative density:	No information available.
Water solubility:	completely miscible
Partition coefficient (n-octanol/water):	-0.74
Autoignition temperature:	440°C
Decomposition temperature:	No information available.
Viscosity:	No information available.
Combustion/explosion hazards:	not hazardous
Oxidizing properties:	None

9.2. Other information

General Product Characteristics	No information available.
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10. Stability and reactivity

10.1. Reactivity	No information available.
10.2. Chemical stability	No decomposition if used as directed.
10.3. Possibility of hazardous reactions	No information available.
10.4. Conditions to avoid	Heating in air. Heating can release hazardous gases.
10.5. Incompatible materials	Incompatible with oxidizing agents.
10.6. Hazardous decomposition products	None under normal use.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity	LD50/oral/rat = 5630 mg/kg. LD50/dermal/rabbit = 15800 mg/kg. LC50/inhalation/2h/rat = 83.9 mg/l.
Skin corrosion/irritation	No data available.
Serious eye damage/eye irritation	Moderate eye irritation.
Respiratory / Skin Sensitisation	None.
Carcinogenicity	Animal testing did not show any hazardous effects.
Germ cell mutagenicity	In vitro tests did not show mutagenic effects.
Reproductive toxicity	Damage to fetus unlikely if the occupational exposure limit values are not exceeded.
Specific target organ toxicity (single exposure)	No data available.
Specific target organ toxicity (repeated exposure)	No data available.
Aspiration hazard	No data available.
Human experience	Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

12. Ecological information

12.1. Toxicity	LC50/96h/fish >= 15000 mg/l.
12.2. Persistence and degradability	Readily biodegradable.
12.3. Bioaccumulative potential	Does not bioaccumulate.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	No information available.
12.6. Other adverse effects	No information available.

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of as hazardous waste in compliance with local and national regulations. Dispose of wastes in an approved waste disposal facility.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities.

14. Transport information

ADR/RID	Proper shipping name METHANOL UN No 1230. Class 3. Packing group II. ADR/RID-Labels 3+6.1. Classification code FT1. Risk No. 336. Limited quantity 1 L. Tunnel code D/E
IMO	Proper shipping name Methanol UN No 1230. Class 3. Packing group II. ADR/RID-Labels 3+6.1. Limited quantity 1 L. EmS F-E, S-D. Marine Pollutant no
ICAO	Proper shipping name Methanol UN No 1230. Class 3. Packing group II. Packing instruction (passenger aircraft): 352 (1 L). Packing instruction (LQ): Y341 (1 L). Packing instruction (cargo aircraft): 364 (60 L).
Inland navigation ADN	Proper shipping name METHANOL UN No 1230. Class 3. Packing group II. ADN danger 3+6.1.
Further Information	None.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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.

15.2. Chemical safety assessment Not required.

16. Other information

Key or legend to abbreviations and acronyms CLP: Classification according to Regulation (EC) No. 1272/2008 (GHS/CLP)
DSD/DPD: Classification according to EU Directives 67/548/EEC or 1999/45/EC
MAK: Maximale Arbeitsplatzkonzentration.

Full text of phrases referred to under sections 2 and 3 H225: Highly flammable liquid and vapour.
H301: Toxic if swallowed.
H311: Toxic in contact with skin.
H331: Toxic if inhaled.
H370derm: Causes damage to organs in contact with skin.
H370inh: Causes damage to organs if inhaled.
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R11: Highly flammable.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

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.