



Safety Data Sheet

SDS has been prepared in accordance with Regulation (EC) No. 453/2010

This Safety Data Sheet is written in reference to a sealed glass ampoule containing 10ml of the product named below.

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Mixture name: Ethanol in water (for solutions containing ~38% to ~41% abv)

Synonyms:
Ethyl alcohol
Alcohol

Product type:
Liquid density standard

Date revised: Apr 2024
Previous: Jun 2022

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

Relevant identified uses: For use in the calibration of density meters.

1.3 Details of the supplier of the Safety Data Sheet

Company: H&D Fitzgerald Ltd.
Address: Cefn Du, Tremeirchion, St Asaph, Denbighshire, LL17 0US, UK
Telephone #: +44 (0)1352 720 774
Email address: admin@density.co.uk

1.4 Emergency telephone number

+44 (0)1352 720 774

Section 2 Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No1272/2008 [CLP]:

Flammable liquid and vapour

2.2 Label elements

Pictogram:



Signal word:

Warning

Hazard statement(s):

H226

Flammable liquid and vapour.

Precautionary statement(s):

P210

Keep away from heat/sparks/open flames/hot surfaces – No smoking.

P280

Wear eye protection/ face protection.

P305 +

IF IN EYES: Rinse cautiously with water for several minutes.

P351 +

Remove contact lenses, if present and easy to do. Continue rinsing.

P338

P337 +

If eye irritation persists: Get medical advice/attention.

P313

P403 +

Store in a well-ventilated place. Keep cool.

P235

2.3 Other hazards

None

Section 3 Composition / Information on ingredients					
Substance name	C.A.S. No.	EINECS No.	Index-No. in CLP Annex IV	Classification	Concentration
Water	7732-18-5	231-791-2	-	Not classified	~62% to ~59%
Ethanol	64-17-5	200-578-6	603-002-00-5	Flam. Liq. 2; Eye Irrit.2; H225, H319	~38% to ~41%
Formula:	H ₂ O (water)		C ₂ H ₆ O (ethanol)		
Molecular Weight:	18.02 g/mol (water)		46.07 g/mol (ethanol)		
For the full text of the H-Statements mentioned in this Section, see Section 16.					

Section 4 First Aid measures	
4.1 Description of first aid measures	
General advice:	Consult a physician. Show this safety data sheet to the doctor in attendance.
Following inhalation:	Move the person into fresh air. If not breathing give artificial respiration. Consult a physician.
Following ingestion:	Never give anything by mouth to an unconscious person. Do not induce vomiting. Rinse mouth with water. Consult a physician if symptoms develop.
Following eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician if symptoms develop.
Following skin contact:	Wash off with soap and plenty of water. Consult a physician if symptoms develop.
4.2 Most important symptoms and effects, both acute and delayed	
Following inhalation:	Respiratory tract irritation.
Following ingestion:	May cause dizziness and/or drowsiness.
Following eye contact:	May cause eye irritation.
Following skin contact:	Use of protective clothing is good industrial practise.
Delayed effects:	Repeated ingestion may cause liver injury.
4.3 Indication of any immediate medical attention and special treatment needed	
No data available.	

Section 5 Fire fighting measures	
5.1 Extinguishing media	
Extinguishing media:	Use extinguishing media appropriate for the surrounding fire.
5.2 Special hazards arising from the substance or mixture	
Hazardous combustion products:	No data available.
5.3 Advice for firefighters	
Special protective equipment for fire-fighters:	No data available.

Section 6 Accidental release measures	
6.1 Personal precautions, protective equipment and emergency procedures	
Protective equipment:	Wear safety glasses with side shields.
Personal precautions:	Use personal protective equipment. Ensure adequate ventilation
6.2 Environmental precautions	
	None required for small quantities.
6.3 Methods and material for containment and cleaning up	
	Ventilate area. Soak up liquid with inert absorbent material and dispose of according to local authority requirements.

Section 7 Handling and storage	
7.1 Precautions for safe handling	
Handling precautions:	Use personal protective equipment. Handle in accordance with good industrial hygiene and safety practise. Normal measures for prevention of fire.
7.2 Conditions for safe storage, including any incompatibilities	
Storage precautions:	Store ampoule in the outer packaging until ready to use. Store in a cool place (less than 25°C). Do not store the ampoule once opened, dispose of according to local authority requirements.
7.3 Specific end use	
Recommendations:	Liquid density standard for calibration of density meters.

Section 8 Exposure controls and personal protection				
8.1 Control parameters				
Components with work place control parameters				
Components	CAS-No.	Value	Control Parameters	Basis
Ethanol	64-17-5	TWA	1000 ppm 1,920 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits
	Remarks	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.		
Derived No Effect Level (DNEL) - 100% ethanol				
Application area	Exposure routes	Value	Health effect	
Workers	Inhalation	950 mg/m ³	Long-term systemic effects	
Workers	Skin contact	343 mg/kg BW/d	Long-term systemic effects	
Workers	Ingestion	343 mg/kg BW/d	Long-term systemic effects	
Workers	Inhalation	1900 mg/m ³	Acute local effects	
Predicted No Effect Concentration (PNEC) - 100% ethanol				
Compartment		Value		
Soil		0.63 mg/kg		
Marine water		0.79 mg/l		
Fresh water		0.96 mg/l		
Fresh water sediment		3.6 mg/l		
Sewage treatment plant		580 mg/l		

8.2 Exposure controls	
Personal protective equipment	
Eye/Face protection:	Wear safety glasses with side shields conforming to EN166.
Hand/skin protection:	Use of protective clothing is good industrial practise.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practise. Wash hands with soap before breaks and at the end of the workday.
Environmental exposure controls	
None required for small quantities.	

Section 9 Physical and chemical properties			
9.1 Information on basic physical and chemical properties			
Appearance: Colourless, liquid	Odour: strong, alcohol-like	Odour threshold: no data available	pH: no data available
Melting point: no data available	Boiling point & range: ~ 78 °C	Flash point: ~42 °C	Evaporation rate: no data available
Flammability (solid/gaseous): no data available	Upper/lower explosive limits: 27.7% (v/v) 3.5% (v/v)	Vapour pressure: 59 hPa	Vapour density: no data available
Density of liquid: ≈ 984 kgm ⁻³ at 25 °C	Solubility: completely soluble in water	Partition coefficient: n-octanol/water no data available	Auto-ignition temperature: ~425 °C
Decomposition temperature: no data available	Viscosity: no data available	Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.	Oxidising properties: no data available
9.2 Other information	VOC content: ~38 - 41%		

Section 10 Stability and reactivity	
10.1 Reactivity	Stable under recommended storage conditions.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	No data available.
10.4 Conditions to avoid	Heat, flames, sparks, and other sources of ignition. Extremes of temperature and direct sunlight.
10.5 Incompatible materials	Strong oxidising agents.
10.6 Hazardous decomposition products	Formation of toxic gases may be possible during heating or in case of fire.

Section 11 Toxicological information

High concentration ethanol in water (~38% to ~41% abv) solution is unlikely to present any toxicological risk in the quantity supplied in a 10 ml ampoule.

11.1 Information on toxicological effects

Acute toxicity - 100% ethanol

Inhalation: LC₅₀(rat): 30,000 mg/l - 4 hr. **(100% ethanol)**

Ingestion: LD₅₀(rat): 10,470 mg/kg **(100% ethanol)**

Skin corrosion/irritation: LD₅₀(rabbit) 15,800 mg/kg. **(100% ethanol)**
Rabbit - No skin irritation - 24h (OECD Test Guideline 404) **(100% ethanol)**

Serious eye damage/irritation: Rabbit – Moderate eye irritation (OECD Test Guideline 405) **(100% ethanol)**

Germ cell mutagenicity: No data available.

Carcinogenicity: Carcinogenicity - Mouse - Oral. Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver:Tumors. Blood:Lymphomas including Hodgkin's disease. **(100% ethanol)**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity: Reproductive toxicity – Human – female – Oral **(100% ethanol)**
Effects on Newborn: Apgar score (human only).
Effects on Newborn: Other neonatal measures or effects.
Effects on Newborn: Drug dependence.

Specific target organ toxicity – single exposure: No data available.

Specific target organ toxicity – repeated exposure: No data available.

Aspiration hazard: No data available

Additional information: RTECS: KQ6300000 **(100% ethanol)**

Section 12 Ecological information

Toxic to aquatic organisms **(100% ethanol)** High concentration ethanol in water (~38% to ~41% abv) solution is unlikely to present any ecological risk in the quantity supplied in a 10 ml ampoule.

12.1 Toxicity

Toxicity to fish: LC₅₀ – Pimephales promelas (fathead minnow) – 14,200 mg/l – 96 h **(100% ethanol)**

Toxicity to daphnia and other aquatic invertebrates: LC₅₀ – Ceriodaphnia dubia (water flea) – 5,012 mg/l – 48 h
NOEC – Daphnia magna (Water flea) – 9.6 mg/l – 9 d **(100% ethanol)**

Toxicity to algae: EC₅₀ – Chlorella vulgaris (Fresh water algae) – 275 mg/l – 72 h
(OECD Test Guideline 201) **(100% ethanol)**

12.2 Persistence and degradability

Biodegradability: Result: 95 % - Readily biodegradable **(100% ethanol)**

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil No data available.

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects No data available.

Section 13 Disposal considerations

General requirements:	Observe all national and local environmental regulations.
For small quantities:	Mop up with inert material and dispose of according to local authority requirements.
Contaminated packaging:	Dispose of as unused product.

Section 14 Transport information

UN Number 1170	UN proper shipping name ethanol solution	Transport hazard class(es) 3
Environmental hazards not classified	EMS-No F-E, S-D	Packing group packing group III

Section 15 Regulatory information

15.1 Safety health and environmental regulations/legislation specific for the substance or mixture	This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010.
15.2 Chemical safety assessment	No chemical assessment has been carried out for this substance by the supplier.

Section 16 Other information

Text of H-code(s) mentioned in Section 2 and 3

H226	Flammable liquid and vapour.
H225	Highly flammable liquid and vapour (100% ethanol)
H319	Causes serious eye irritation (100% ethanol)

Reason for revision: Biennial review.

Disclaimer

H&D Fitzgerald Ltd believes that data given here is accurate. It is derived from published information about ethanol. No warranty, expressed or implied, is intended. The data is provided for your information and consideration when using ethanol in water ~38% to ~41% as a liquid density standard for the calibration of density meters. H&D Fitzgerald Ltd assumes no legal responsibility for its use.