

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

* SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**

- **Trade name:** Ethanol (Absolute)

- **Product Code:** 40-1705-10; 40-1705-25

- **CAS Number:**

64-17-5

- **EC number:**

200-578-6

- **Index number:**

603-002-00-5

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

- **Product category** PC21 Laboratory chemicals

- **Application of the substance / the mixture** Laboratory chemicals

- **Uses advised against**

Processes involving extreme heat use advised against.

Processes involving the use of incompatible substances - refer to section 10.

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Any use involving aerosol formation or vapour release in excess of the assigned Workplace Exposure Limit where workers are exposed without suitable Respiratory Protective Equipment.

Processes where workers who may be pregnant or breastfeeding could potentially come into direct contact with the undiluted product.

- **1.3 Details of the supplier of the safety data sheet**

- **Supplier:**

Severn Biotech Ltd.

Unit 2,

Park Lane,

Kidderminster,

Worcestershire.

DY11 6TJ

UK

Tel: 0044 1562 825286

Fax: 0044 1562 825284

email: info@severnbiotech.com

- **Further information obtainable from:** Product safety department.

- **1.4 Emergency telephone number:**

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**

- **Classification according to GB-CLP**

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**

- **Labelling according to GB-CLP** The substance is classified and labelled according to the GB CLP regulation.

(Contd. on page 2)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 1)

· Hazard pictograms



GHS02 GHS07

· Signal word Danger

· Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

· Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P280 Wear eye protection / face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501 Dispose of contents/container in accordance with local regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.1 Substances

· CAS No. Description

CAS: 64-17-5 Ethanol

· Identification number(s)

· **EC number:** 200-578-6

· **Index number:** 603-002-00-5

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· After skin contact:

Immediately rinse with water.

If skin irritation continues, consult a doctor.

· After eye contact:

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

· **Information for doctor:** Treat symptomatically and supportively.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 2)

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:**CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet**5.2 Special hazards arising from the substance or mixture**

Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur.

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Flammable. Vapours may travel to source of ignition and flash back.

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

Additional information

Absorb gas/vapours with water spray.

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Keep away from ignition sources.

Keep ignition sources away - no smoking.

Wear protective equipment. Keep unprotected persons away.

Vapours are heavier than air. They can spread along the ground and collect in confined spaces.

6.2 Environmental precautions:

Do not allow to penetrate the ground/soil.

Do not allow product to reach sewage system or any water course in the undiluted form.

Prevent seepage into sewage system, workpits and cellars.

6.3 Methods and material for containment and cleaning up:

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 3)

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Conduct maintenance and other work on or in storage/reactor/mixing vessels or closed spaces ONLY under strict Permit to Work conditions.

Welding and other hot work operations in the work area must only be permitted under supervision.

Keep away from heat and direct sunlight.

Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Vapour is heavier than air. Beware of accumulation in pits and confined spaces.

· Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Flammable gas-air mixtures may form in empty receptacles.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· Requirements to be met by storerooms and receptacles:

Store in a cool location.

Prevent any seepage into the ground.

· Information about storage in one common storage facility: Store away from oxidising agents.

· Further information about storage conditions:

Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

Store in cool, dry conditions in well sealed receptacles.

Store receptacle in a well ventilated area.

· Storage class: 3

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

CAS: 64-17-5 Ethanol

WEL Long-term value: 1920 mg/m³, 1000 ppm

· DNELs

CAS: 64-17-5 Ethanol

Oral	Long-term systemic effects	87 mg/kg bw/day (general population)
Dermal	Long-term systemic effects	206 mg/kg bw/day (general population)
		343 mg/kg bw/day (worker)
Inhalative	Long-term systemic effects	114 mg/m ³ (general population)
		380 mg/m ³ (worker)
	Short-term local effects	950 mg/m ³ (general population)
		1,900 mg/m ³ (worker)

(Contd. on page 5)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 4)

· PNECs

CAS: 64-17-5 Ethanol

Freshwater	960 µg/L
Freshwater - Intermittent releases	2.75 mg/L
Marine water	790 µg/L
Sewage Treatment Plant	580 mg/L
Sediment (freshwater)	3.6 mg/kg
Sediment (marine water)	2.9 mg/kg
Soil	630 µg/kg
Secondary poisoning	380 – 720 mg/kg food

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Do not eat, drink, smoke or sniff while working.

Avoid contact with the eyes and skin.

A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.

Take note of assigned Workplace Exposure Limits.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A for organic vapours

· **Hand protection**



Protective gloves.

Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

Break-through time: > 480 minutes

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection**



Safety glasses with side-shields conforming to EN166.

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

(Contd. on page 6)

GB

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 5)

· Body protection:


Protective work clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

- **Environmental exposure controls** Do not let product enter drains. Risk of explosion.
- **Risk management measures** The operators shall be instructed adequately.

* SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties
· General Information

· Physical state	Liquid
· Colour:	Colourless
· Odour:	Alcohol-like
· Odour threshold:	Not determined.
· Melting point/freezing point:	-114 °C
· Boiling point or initial boiling point and boiling range	78 °C (CAS: 64-17-5 Ethanol)
· Flammability	Highly flammable.
· Lower and upper explosion limit	
· Lower:	2.5 Vol % (CAS: 64-17-5 Ethanol)
· Upper:	13 Vol % (CAS: 64-17-5 Ethanol)
· Flash point:	13 °C
· Auto-ignition temperature:	> 350 °C (CAS: 64-17-5 Ethanol)
· Decomposition temperature:	Not determined.
· pH	Not determined.
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 20 °C:	1.2 mPas
· Solubility	
· water at 20 °C:	1,000 g/l
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	59 hPa (CAS: 64-17-5 Ethanol)
· Vapour pressure at 50 °C:	280 hPa
· Density and/or relative density	
· Density at 20 °C:	0.79 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· 9.2 Other information

NOTE: The physical data presented above are typical values and should not be construed as a specification.

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined.
· Explosive properties:	Not determined.
· Solvent content:	
· Organic solvents:	100.0 %
· VOC (EC)	100.00 %

(Contd. on page 7)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 6)

· Solids content:	0.0 %
· Molecular weight	46 g/mol
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Not applicable
· Flammable gases	Not applicable
· Aerosols	Not applicable
· Oxidising gases	Not applicable
· Gases under pressure	Not applicable
· Flammable liquids	Highly flammable liquid and vapour.
· Flammable solids	Not applicable
· Self-reactive substances and mixtures	Not applicable
· Pyrophoric liquids	Not applicable
· Pyrophoric solids	Not applicable
· Self-heating substances and mixtures	Not applicable
· Substances and mixtures, which emit flammable gases in contact with water	Not applicable
· Oxidising liquids	Not applicable
· Oxidising solids	Not applicable
· Organic peroxides	Not applicable
· Corrosive to metals	Not applicable
· Desensitised explosives	Not applicable

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
At elevated temperatures, explosive vapour/air mixtures may be formed.
- **10.3 Possibility of hazardous reactions**
Forms explosive gas mixture with air.
Reacts violently with oxidising agents.
Reacts with alkaline metals.
Reacts with reducing agents.
- **10.4 Conditions to avoid** Heat and static discharge.
- **10.5 Incompatible materials:**
Strong acids and oxidising agents
Substances specifically listed in section 10.3 as incompatible.
- **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**
CAS: 64-17-5 Ethanol

Oral	LD50	> 10,000 mg/kg (rat)
------	------	----------------------

(Contd. on page 8)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 7)

Dermal	LD50	> 10,000 mg/kg (rabbit)
Inhalative	LC50/4 h	> 100 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Subacute to chronic toxicity:** Prolonged or repeated skin contact may irritate and cause dermatitis.
- **Additional toxicological information:**
 ROUTES OF EXPOSURE: Can be absorbed into the body by inhalation and by ingestion.
 Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

11.2 Information on other hazards

· Endocrine disrupting properties

Substance is not listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

CAS: 64-17-5 Ethanol

EC50 (96 h) 454 mg/l (Bacteria)

- **12.2 Persistence and degradability** Readily biodegradable
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
 Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 Recommended Hierarchy of Controls:
 - Minimise waste;
 - Reuse if not contaminated;
 - Recycle, if possible; or
 - Safe disposal (if all else fails).

(Contd. on page 9)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 8)

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· **Uncleaned packaging:**

· **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Container remains hazardous when empty. Continue to observe all precautions.

Do not mix with other waste streams.

Disposal must be made according to official regulations.

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN number or ID number**

· **ADR/RID/ADN, IMDG, IATA** UN1170

· **14.2 UN proper shipping name**

· **ADR/RID/ADN** UN1170 ETHANOL (ETHYL ALCOHOL)
· **IMDG** ETHANOL (ETHYL ALCOHOL)
· **IATA** ETHANOL

· **14.3 Transport hazard class(es)**

· **ADR/RID/ADN**



· **Class** 3 (F1) Flammable liquids.
· **Label** 3

· **IMDG, IATA**



· **Class** 3 Flammable liquids.
· **Label** 3

· **14.4 Packing group**

· **ADR/RID/ADN, IMDG, IATA** II

· **14.5 Environmental hazards:**

· **Marine pollutant:** No

· **14.6 Special precautions for user**

· **Hazard identification number (Kemler code):** Warning: Flammable liquids.
33

· **Hazchem Code:** •2YE

· **EMS Number:** F-E,S-D

(Contd. on page 10)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 9)

· Stowage Category	A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

* SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**

· **Regulated explosives precursors**

Substance is not listed.

· **Regulated poisons**

Substance is not listed.

· **Reportable explosives precursors**

Substance is not listed.

· **Reportable poisons**

Substance is not listed.

· **Control Of Major Accident Hazards Regulations 2015 (COMAH)**

- **Named dangerous substances - ANNEX I** Substance is not listed.

· **COMAH category P5c**

- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t

- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

(Contd. on page 11)

Safety Data Sheet

according to UK REACH (SI 2020/1577) as amended

Printing date 30.06.2025

Version number 4 (replaces version 3)

Revision: 30.06.2025

Trade name: Ethanol (Absolute)

(Contd. of page 10)

· Training hints

This product should only be handled by workers who have received sufficient training in the safe handling and use of chemical products.

· Department issuing SDS: Product safety department.**· Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

· * Data compared to the previous version altered.

GB
