

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.01.2022

Revision: 31.01.2022

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

· 1.1 Product identifier

· **Trade name:** Ethanol Industrial (IMS 99%)

· **Article number:** 40-1703-25

· **Registration number**

Mixture:

- Ethanol: 01-2119457610-43

- Methanol: 01-2119433307-44

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

· **Sector of Use** SU24 Scientific research and development

· **Product category** PC21 Laboratory chemicals

· **Application of the substance / the mixture**

The product has many industrial, professional and consumer applications primarily as a solvent.

· **Uses advised against**

Any use involving aerosol formation or vapour or dust release in excess of the assigned workplace exposure limits where workers are exposed without suitable respiratory protective equipment (RPE).

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

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

Processes involving extreme heat use advised against.

The product is intended exclusively for industrial and professional use.

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

· **Manufacturer/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:**

UK National Poisons Information Service. E-mail: npis.birmingham@nhs.net; Tel: +44 (0)344 892 0111

SECTION 2: Hazards identification

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

· **Classification according to Regulation (EC) No 1272/2008**



flame

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



health hazard

STOT SE 2 H371 May cause damage to the central nervous system and the visual organs.



Eye Irrit. 2 H319 Causes serious eye irritation.

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- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Methanol
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H371 May cause damage to the central nervous system and the visual organs.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist/vapours/spray.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6	Ethanol Flam. Liq. 2, H225; Eye Irrit. 2, H319	50-100%
CAS: 67-56-1 EINECS: 200-659-6	Methanol Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	<4%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
DO NOT DELAY!
Immediately rinse with water.
- **After eye contact:**
DO NOT DELAY!
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing:**
DO NOT DELAY!
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:**
Effects may be delayed.
Single large oral doses may result in such adverse effects as:, disturbance of vision, skin irritation
Treatment: Symptomatic treatment (decontamination, vital functions).
- **4.2 Most important symptoms and effects, both acute and delayed**
Headache
Dizziness
Nausea
Unconsciousness
- **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.
- **5.2 Special hazards arising from the substance or mixture**
Highly flammable.
Vapour/air mixtures are explosive.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Highly flammable liquid.
Vapours form explosive mixtures with air.
Mixable with water.
Highly volatile.
Be aware of possibility of re-ignition.
This product gives off flammable vapours which may form explosive mixtures with air.
Vapours with a source of ignition can create a flash fire, not a UVCE (Unconfined Vapour Cloud Explosion).
Run off to sewer may cause fire or explosion hazard
Containers may explode in heat of fire. Use water to cool fire-exposed containers and to disperse vapour.

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.
Eliminate all sources of ignition.
Wear appropriate protective clothing.
Avoid breathing vapours.
Keep unnecessary people away; isolate hazard area and deny entry.
Consider need for evacuation.
Stay up wind and keep out of low areas where vapour may accumulate and ignite.
Stop leak if this can be achieved without risk.
For small spills take up with a non-combustible absorbant.
For large spills, dike or dam for later disposal.

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· **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.

· **6.3 Methods and material for containment and cleaning up:**

- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Send for recovery or disposal in suitable receptacles.
- Ensure adequate ventilation.

SMALL SPILLS: Allow to evaporate if it is safe to do so or contain and absorb using earth, sand or other inert material then transfer into suitable containers for recovery or disposal. Ventilate contaminated area thoroughly.

LARGE SPILLS: Dike or dam to contain for later disposal. Contact emergency authorities.

· **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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

- 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.
- Welding and other hot work operations in the work area must only be permitted under supervision.
- Conduct maintenance and other work on or in storage/reactor/mixing vessels or closed spaces ONLY under strict Permit to Work conditions.
- Suitable equipment for dealing with fires, spills and leaks must be readily available.
- Earth all equipment. Use explosion protected electrical equipment and lighting.
- Do not smoke eat or drink in areas of use and storage.
- Use closed-system transfers wherever possible.
- Earth (ground) lines and equipment used during transfer to reduce possibility of static spark initiated fire or explosion
- Do NOT use compressed air for filling, discharging, or handling.
- Use non-sparking handtools.

· **Information about fire - and explosion protection:**

- Keep ignition sources away - Do not smoke.
- Protect against electrostatic charges.
- Flash point: 12°C
- Ignition temperature: approx. 400 °C
- Temperature class: T2
- Max. exper. safe gap (MESG): 0.89 mm
- Explosion group: IIB
- Lower explosion limit: 2.5 vol. %
- Upper explosion limit: 13 vol. %
- Maximum explosion pressure: 8.4 bar

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

- Store in a cool location.
- Storage area should be cool, dry, well ventilated, out of direct sunlight and separated from oxidants and strong mineral acids.
- Store in original containers.
- Store away from sources of heat or ignition.
- Storage tanks should have equipotential electrical bonding and be earthed. Storage should be closed.

Incompatible materials: natural rubber, PVC, methyl-methacrylate plastics, polyamides, zinc, brass, aluminium under certain conditions.

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Compatible materials: Stainless steel, titanium, cast bronze, cast iron, carbon steel, polypropylene, neoprene, nylon, viton, ceramic, carbon, glass.

· **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.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Additional information about design of technical facilities:** No further data; see item 7.

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

64-17-5 Ethanol

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

67-56-1 Methanol

WEL Short-term value: 333 mg/m³, 250 ppm

Long-term value: 266 mg/m³, 200 ppm

Sk

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

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Avoid close or long term contact with the skin.

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

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.

Pregnant women should strictly avoid inhalation or skin contact.

Ensure that eyewash stations and safety showers are close to the workstation location.

A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

In case of insufficient local exhaust ventilation and/or handling with open equipment: Respiratory air fed breathing apparatus if there is a risk of exposure to high vapour concentrations. If using a half mask: organic vapour cartridge Ax type.

· **Protection of hands:**



Protective gloves

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**

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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Wear gloves with breakthrough times >480 minutes: Nitrile rubber gloves. Butyl rubber gloves.(complying to EN 374-3)

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Fluid
Colour:	Various colours
Odour:	Alcohol-like
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/freezing point:	-114 °C
Initial boiling point and boiling range:	78 °C

- **Flash point:** 12 °C

- **Flammability (solid, gas):** Not applicable.

- **Ignition temperature:** >350 °C

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not self-igniting.

- **Explosive properties:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- **Explosion limits:**

Lower:	2.5 Vol %
Upper:	13 Vol %

- **Vapour pressure at 20 °C:** 59 hPa

Density at 20 °C:	0.79 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

- **Solubility in / Miscibility with water:** Fully miscible.

- **Partition coefficient: n-octanol/water:** Not determined.

- **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

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· **9.2 Other information**

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

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions**
Forms explosive gas mixture with air.
Reacts slowly with calcium hypochlorite, silver oxide and ammonia. This generates fire and explosion hazard.
Reacts violently with strong oxidants such as nitric acid, silver nitrate, mercuric nitrate and magnesium perchlorate. This generates fire and explosion hazard.
- **10.4 Conditions to avoid** Aluminium at higher temperatures.
- **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 toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:****67-56-1 Methanol**

Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

64-17-5 Ethanol

Oral	LD50	>10000 mg/kg (rat)
Dermal	LD50	>10000 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**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Subacute to chronic toxicity:**
Effects of long-term or repeated exposure: The liquid defats the skin. Repeated or prolonged contact with skin may cause dermatitis. The product may have effects on the upper respiratory tract and central nervous system. This may result in irritation, headache, fatigue and lack of concentration.
Ethanol consumption during pregnancy may adversely affect the unborn child.
Chronic ingestion of ethanol may cause liver cirrhosis.
Methanol may have effects on the central nervous system, resulting in persistent or recurring headaches and impaired vision.
Depending on the degree of exposure, periodic medical examination is suggested.
- **Additional toxicological information:**
Routes of exposure: The component substances can be absorbed into the body by inhalation of its vapour, by skin absorption and by ingestion.
Inhalation risk: A harmful contamination of the air will be reached rather slowly on evaporation of this product at 20 degs.C.

Effects of short-term exposure: The product is irritating to the eyes. Inhalation of high concentrations of the vapour may cause irritation of the eyes and respiratory tract. The component substances may cause effects on

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the central nervous system.

Methanol can be absorbed through the skin producing systemic effects. Inhalation of vapours and skin absorption are the most common routes of entry. The substance may cause effects on the central nervous system, resulting in loss of consciousness. Exposure may result in blindness and death. The effects may be delayed. Medical observation is indicated. Depending on the severity of the exposure and promptness of treatment, the patient may recover completely or may suffer permanent blindness, visual disturbances and/or nervous effects.

Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison. A single exposure may have little effect; however, repeated exposures may result in the accumulation of dangerous levels.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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**
May cause damage to the central nervous system and the visual organs.
- **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.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

67-56-1 Methanol

EC50	>10000 mg/kg (daphnia)
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64-17-5 Ethanol

EC50	454 mg/kg (daphnia)
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- **12.2 Persistence and degradability** biodegradable
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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).

Contact waste processors for recycling information.

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

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.

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- **Uncleaned packaging:**
- **Recommendation:**
 Container remains hazardous when empty. Continue to observe all precautions.
 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.
 Do not mix with other waste streams.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA 	UN1170	
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA 	1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) ETHANOL SOLUTION	
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	3 Flammable liquids. 3
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	II	
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: 	No	
<ul style="list-style-type: none"> · 14.6 Special precautions for user 	Warning: Flammable liquids.	
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.	
<ul style="list-style-type: none"> · Transport/Additional information: 	<hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Tunnel restriction code 	1L D/E
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN1170, ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II	

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **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

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· **National regulations:**

· **Information about limitation of use:**

Class	Share in %
I	3.5
NK	96.5

· **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.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H370 Causes damage to organs.

· **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

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 3: Acute toxicity – Category 3

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

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

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