

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.09.2017

Revision: 06.09.2017

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

· 1.1 Product identifier

· **Trade name:** Ethanol Denatured B (TSDA) 100%

· **Article number:** 40-1712-10

· **Registration number**

Mixture:

Ethanol: 01-2119457610-43

· **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**

The substance has many industrial, professional and consumer applications.

Laboratory chemical.

· **Uses advised against**

Processes involving extreme heat use 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 where workers who may be pregnant or breastfeeding could potentially come into direct contact with the product.

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

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:** Tel: 0044 1562 825286 (not 24 hours)

SECTION 2: Hazards identification

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

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



GHS02 flame

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



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

· **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

· **Signal word** Danger

· **Hazard statements**

H225 Highly flammable liquid and vapour.

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H319 Causes serious eye irritation.

- **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.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.

P403+P235 Store in a well-ventilated place. Keep cool.

- **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:** A blend of ethanol with colouring agent and denaturing agent.

- **Dangerous components:**

| | | | |
|-------------------|---------|--|-----------|
| CAS: 64-17-5 | Ethanol | ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319 | >90-≤100% |
| EINECS: 200-578-6 | | | |

- **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:** Immediately remove any clothing soiled by the product.

- **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:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **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.

- **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.

- **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Information for doctor:** Symptomatic treatment (decontamination, vital functions).

- **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.

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· **5.2 Special hazards arising from the substance or mixture**

Highly flammable liquid.
Vapours form explosive mixtures with air.
Mixable with water.
Highly volatile.

· **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.
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.

· **6.2 Environmental precautions:**

Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course.

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

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.
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.

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Use closed-system transfers wherever possible.

Earth (ground) lines and equipment used during transfer to reduce possibility of static spark initiated fire or explosion

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

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Flas point: 13°C (c.c.)

Ignition temperature: 350 °C

Temperature class: T2

Max. exper. safe gap (MESG): 0.89 mm

Explosion group: IIB

Lower explosion point:: 9 °C

Upper explosion point:: 44 °C

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.

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.

Store in a banded area.

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

SECTION 8: Exposure controls/personal protection

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

· **8.1 Control parameters**

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

64-17-5 Ethanol

| | |
|-----|--|
| WEL | Long-term value: 1920 mg/m ³ , 1000 ppm |
|-----|--|

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

· **8.2 Exposure controls**

· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

· **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.

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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.
 Storing food in the working area is prohibited.
 Ensure that washing facilities are available at the work place.
 Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

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.
 Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
 If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

· **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.

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

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

| | |
|-------------------------|-----------------|
| Form: | Fluid |
| Colour: | Violet |
| Odour: | Alcohol-like |
| Odour threshold: | Not determined. |

· **pH-value:** Not determined.

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| | |
|--|---|
| · Change in condition | |
| Melting point/freezing point: | -114°C |
| Initial boiling point and boiling range: | 78°C |
| · Flash point: | 13°C |
| · Flammability (solid, gas): | Not applicable. |
| · Ignition temperature: | 350°C |
| · Decomposition temperature: | Not determined. |
| · Auto-ignition temperature: | Not determined. |
| · Explosive properties: | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
| · Explosion limits: | |
| Lower: | 2.5 Vol % |
| Upper: | 13.0 Vol % |
| · Vapour pressure at 20°C: | 59 hPa |
| · Density at 20°C: | 0.78 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: | -0.35 log POW |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · 9.2 Other information | No further relevant information available. |

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.

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| | | |
|--|----------|-----------------------|
| · LD/LC50 values relevant for classification: | | |
| 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. The substance 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.

- Repeated or prolonged contact with skin may cause dermatitis.

- 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 vapour and by ingestion.

- Inhalation risk: A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20 degs.C.

Effects of short-term exposure: Ethanol is irritating to the eyes. Inhalation of high concentrations of the vapour may cause irritation of the eyes and respiratory tract. The substance may cause effects on the central nervous system.

- **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** 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.

SECTION 12: Ecological information

- **12.1 Toxicity**

| | |
|----------------------------|---------------------|
| · Aquatic toxicity: | |
| 64-17-5 Ethanol | |
| EC50 | 454 mg/kg (daphnia) |

- **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.

- **Ecotoxicological effects:**

- **Remark:** Harmful to fish

- **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.

- Harmful to aquatic organisms

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

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· **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.

· **European waste catalogue**

Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

· **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 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

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1170

· **14.2 UN proper shipping name**

· **ADR**

1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· **IMDG**

ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· **IATA**

ETHANOL SOLUTION

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

3 Flammable liquids.

· **Label**

3

· **14.4 Packing group**

· **ADR, IMDG, IATA**

II

· **14.5 Environmental hazards:**

· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Danger code (Kemler):**

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| | |
|--|--|
| · EMS Number: | F-E,S-D |
| · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 1L |
| · Transport category | 2 |
| · Tunnel restriction code | D/E |
| · 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**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **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.

H319 Causes serious eye irritation.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

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

GB