

**MATERIAL SAFETY DATA SHEET**

According to regulation (EC) No. 1907/2006

Created: March 2009  
Last Updated: October 2009**1. Identification of the Substance/Mixture and of the Company/Undertaking**

<b>Product Name</b>	RECTIFIED ETHYL ALCOHOL ( min 96 % vol.) DENATURED
<b>Chemical formula</b>	mixture, CH <sub>3</sub> CH <sub>2</sub> OH ( chief ingredient)
<b>Product Use</b>	General purpose organic solvent, aerosols, cosmetics, pharmaceuticals etc.
<b>Company Name</b>	BIOETANOL AEG Sp. z o. o. 87-140 Chelmża ul. Bydgoska 4 Tel. +48 56 675 16 16 Fax. +48 56 675 16 14
<b>Emergency Telephone Number</b>	international +48 513 087 392 email: krzysztoftaglewicz@bioetanolaeq.pl

**2. Hazards Identification****Classification and Hazards**

F – Highly Flammable Liquid

**3. Composition and Information on Ingredients**

<b>Name</b>	<b>% by weight</b>	<b>No CAS</b>	<b>No EINECS</b>	<b>Hazard symbols</b>	<b>Risk Phrases</b>
Ethyl Alcohol	91- 96	64-17-5	200-57-86	F	R11
Isopropyl Alcohol	2,7- 3,5	67-63-0	200-661-7	F, Xi	R11,36,67
Denatonium Benzoate	max 0,015	3734-33-6	223-095-2	Xn	R20/22 52/53

#### **4. Emergency and First Aid Measures**

Note! In the first instance remove victim from exposure to fresh air immediately. Consult a physician. Show this safety data sheet to the doctor in attendance.

##### **In case of exposure by inhalation**

Place the injured in a lying position. If the victim is not breathing, give artificial respiration. Seek medical attention immediately. Consult a physician.

##### **After Ingestion**

Rinse mouth. Give 1-2 glasses of water to drink. Never give anything by mouth to an unconscious person. If victim is conscious induce vomiting or perform gastric washing. Ensure the lying position of the injured. Keep them warm and calm. Get medical assistance for all cases of exposure. Consult a physician.

##### **In case of Eye Contact**

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids ( check for and remove contact lenses, if easily possible). Seek medical attention if required.

##### **In case of Skin Contact**

Promptly remove contaminated clothing under running water. Flush affected area with plenty of water and wash thoroughly with water and disinfectant soap. Wash clothing before reuse. If irritation occurs seek medical attention.

#### **5. Fire-fighting Measures**

##### **Specific fire and explosion hazards**

Containers can build up pressure and may explode, if exposed to heat and/or fire. Use water spray to precipitate alcohol vapours. Cool all affected containers with flooding quantities of water.

##### **Suitable Extinguishing Media**

- carbon dioxide CO<sub>2</sub>
- dry chemical, powder, foam
- chemical foam, alcohol- resistant foam
- water spray

##### **Special Fire Fighting Procedures**

For small fires, use dry chemical media, carbon dioxide (CO<sub>2</sub>), water spray or alcohol-resistant foam. For large fires, use alcohol-resistant foam or water spray.

NOTE: Water may be ineffective. Do not use straight streams of water. Vapours may flow along surface to distant ignition source and flash back.

##### **Special Protective Equipment for Fire-fighters**

Wear self contained breathing apparatus and protective clothing resistant to high temperatures if necessary.

##### **Further Information**

Use water spray to cool unopened containers. Hazardous products of combustion are carbon oxides (CO, CO<sub>2</sub>).

## **6. Accidental Release Measures**

### **In general**

In case of release into the environment, evacuate personnel to safe areas. The accident must be located as soon as possible. The area affected must be controlled because of the risk of alcohol vapour explosion. Only authorised person trained in the chemical rescue can proceed to eliminate contamination.

NOTE: Vapours may form an explosive mixture with air. In case of release of ethanol to the sewer, there is a danger of explosion. Vapours can accumulate in low areas.

### **Personal Protective Equipment/ Personal Precautions**

Always wear appropriate protective clothing and gloves to prevent skin exposure. Wear appropriate protective eyeglasses. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Use proper respiratory protection with a filter marked with brown colour and molecular filter P 2. Remove all sources of ignition.

### **Specific Recommendations.**

If dealing with the failure is difficult or impossible, advise trained emergency response personnel or specialized emergency services of the situation. Waste must be disposed of in accordance with local environmental control regulations. Avoid spillage from entering drains, sewers or water courses. If water pollution occurs, notify the appropriate authorities and users.

### **Environmental Precautions**

Prevent further leakage or spillage. Spilled substance should be collected as soon as possible. Prevent contamination of soil and water. Do not let product enter drains. Notify the appropriate authorities of the health and environmental protection.

- prevent waste material from entering drains,
- prohibit the use of open flames,
- Flammable vapours can spread along the ground and collect in low or confined areas- ensure the seal of low-lying premises.

### **Methods and Materials for Containment/ Cleaning up/ Disposal.**

Contain spillage, collect with non-combustible absorbent material ( e.g. sand, vermiculite) and place in container for disposal. Dispose by incineration - waste disposal must be in accordance with appropriate local regulations. Collect and deposit in sealed containers for disposal. The large quantities of waste material, if unaltered by use, should be disposed of by the process of purification and recovery (distillation) at a permitted facilities.

## **7. Handling and Storage**

### **Fire and Explosions Prevention**

Persons with a tendency to skin allergies or respiratory diseases should not have been in contact with the product. Use standard precautions in handling chemicals. Avoid inhalation of vapour or mist.

Due to the high flammability of the product, strictly follow the special fire precautions required in any workplace. Protect containers from heating. Avoid contact with heat, sparks and flame. Keep them away from incompatibles such as metals, alkalis.

### **Condition for Safe Storage**

Store only in original, properly labelled containers. Keep containers tightly closed. Store in a cool, dry, well-ventilated area away from ignition sources, oxidizers and incompatible substances. Avoid contact with heat, sparks and flame. Take precautionary measures against static discharges. Use spark-proof tools and explosion proof equipment. Take precautions to prevent static electricity build-up when transferring contents. Facilities storing or utilizing this material should be equipped with explosion-proof ventilation equipment.

## **10. Exposure Controls and Personal Protection**

### **Exposure Limits. Components with workplace control parameters.**

<b>Chemical Name</b>	<b>NDS</b>	<b>NDSCh</b>	<b>NDSP</b>
Ethyl Alcohol	1900 mg/m <sup>3</sup>	none listed	none listed
Isopropyl Alcohol	900 mg/m <sup>3</sup>	1200 mg/m <sup>3</sup>	none listed
Denatonium Benzoate	0,1 mg/m <sup>3</sup>	none listed	none listed

### **Workplace Exposure Limits**

Use adequate general or local exhaust ventilation to keep airborne concentrations of vapour below the permissible exposure limits.

### **Respiratory Protection**

A proper respiratory protection should be used to avoid inhalation of the product. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator.

### **Hand Protection**

Wear appropriate protective gloves to prevent skin exposure. Handle with gloves.

### **Eye Protection**

Wear appropriate protective eyeglasses.

### **Skin and Body Protection**

Wear appropriate clothing to prevent repeated or prolonged skin contact.

### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work.

## **9. Physical and Chemical Properties**

### **In General:**

<b>Appearance</b>	clear, colourless liquid
<b>Odour</b>	characteristic, lower alcohol odour

### **Other Important Data/ Safety Data:**

<b>pH</b>	alkaline, unacceptable
<b>Boiling Point</b>	78- 80 °C
<b>Flash Point</b>	14- 17 °C
<b>Flammability of the product</b>	highly flammable
<b>Explosive Properties</b>	yes
<b>Explosion Limit</b>	
<b>Lower</b>	3,5 % vol.
<b>Upper</b>	15 % vol.
<b>Oxidising Properties</b>	does not occur
<b>Relative Vapour Pressure</b>	59 hPa at 20°C
<b>Specific Density</b>	0,81- 0,82 g/cm <sup>3</sup> at 20 °C
<b>Solubility</b>	
<b>in water</b>	completely soluble
<b>in solvents</b>	not determined
<b>Coefficient of n-Octanol/ Water distribution</b>	not determined
<b>Viscosity</b>	1,2 mPa*s at 20 °C
<b>Evaporation Rate</b>	no data available
<b>Additional Information:</b>	
<b>Melting/Freezing Point</b>	-117 °C
<b>Auto-ignition Temperature</b>	425 °C

## **10. Stability and Reactivity Data**

### **Chemical Stability**

The product is stable under normal temperature and pressures. Product highly flammable. Vapours can form an explosive mixture with air. Keep containers tightly closed. Provide low temperature storage. Containers may explode at high temperatures.

### **Conditions to Avoid**

Excess heat, flames and sparks. Leaks package. Lack of proper ventilation.

## Materials to Avoid

Incompatible materials. Strong oxidising agents. Alkali metals. Oxides of alkali metals. Ammonia, Peroxides.

## Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions- Carbon Monoxide, Carbon Dioxide.

## 11. Toxicological Information

### Routes of Entry or Exposure and Potential Acute and Chronic Health Effects

The substance may be absorbed by inhalation or ingestion. May be absorbed through the skin. Inhalation of high concentration of vapour may cause irritation of the eyes and respiratory tract. May cause skin irritation. The substance may cause effects on central nervous system. May cause liver and kidney damage.

### Potential Health Effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Ingestion** May be harmful if swallowed.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.

**Acute toxicity:** Ethanol No. CAS 64-17-5

- a) Inhalation, rat: LC<sub>50</sub> >8000 mg/l/4h;  
Rabbit, skin: LD<sub>50</sub> > 20000 mg /kg  
Oral, rat: LD<sub>50</sub> = 6200 mg/ kg

## 12. Ecological Information

### Eco-toxicity

Doses and toxic impact on land and aquatic organisms and plant.

Ethanol No. CAS 64-17-5

- a) Log. P(w/o): -0,32 product is not expected to bio accumulate  
Fish: L. idus LC<sub>50</sub>: 8140 mg/l/48h,  
Daphnia magna: EC5: 9266 – 14221 mg/l/48h  
Algae Sc. Quadericanda EC5: 5000 mg/l/7d.

Ethanol No.CAS 64-17-5

- b) Bacteria: Ps. Putida EC5:6500 mg/l/16h. Protozoon E. sulcatum EC5: 65 mg/l/72h.  
B.Z.T5: 0,93 – 1,67 g/g. Ch.Z.T: 1,99 g/g.

With careful and appropriate handling the substance, there is no environmental threat.

### Mobility

The product is completely dissolved in water. When spilled, it is expected to volatilize and leach into the ground water. It is poorly absorbed into soils and sediments.

### Persistence and Degradability

Completely biodegradable.

### **13. Waste Disposal Considerations**

#### **Waste Classification**

Contaminated water. Other absorbent materials. Contaminated packaging.

#### **Waste Disposal Method**

**Product.** Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service.

**Contaminated packaging.** Dispose of as unused product. Empty drums can be recycled or returned for reconditioning or metal recycling.

#### **Proceeding in Case of Release or Spill of Substance.**

Waste water dispose in the biological waste water treatment plant. Contact your local permitted waste disposal site for permissible treatment. Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all local regulations.

#### **Regulation of Hazardous Waste**

Waste must be disposed of in accordance with local environmental control regulations. Comply with local regulations on reporting releases.

### **14. Transport Information ADR/RID**

<b>UN Number</b>	UN 1170
<b>ADR/ RID Hazard Class</b>	3
<b>Proper Shipping Name</b>	Ethyl Alcohol, Ethanol and Ethanol's Solutions
<b>Packing Group</b>	II
<b>Labelling</b>	label 3

### **15. Regulatory Information**

#### **Chemical Safety Evaluation**

Not Established.

#### **Other Regulations and Legislation**

1. Commission Regulation (EC) No 1907/2006 of the European Parliament and the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

#### **Other Issues and International Regulations**

Not Determined

#### **Additional Regulatory Information**

None

## Hazard Information, Packaging and Labeling

European Labelling in Accordance with EC Directives 67/548/EEC, 1999/45/EEC and Regulation (EC) No 1272/2008

- **Product Name**
- **Name, Address, Phone Number of Manufacturer**
- **Hazard Symbols /Pictograms**



F

F- Highly Flammable Product

Highly Flammable Liquid and Vapours

- **Signal word** Danger
- **Hazard statements** H225 Highly flammable liquid and vapours
- **Precautionary statements** P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
- **Risk Phrases**  
R11 – Highly flammable product
- **Safety Phrases**  
S2 – Keep out of reach of children  
S7 – Keep container tightly closed  
S16 –Keep away from sources of ignition- no smoking  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S46- If swallowed, seek medical advice immediately and show this container or label.

## 16. Other Information

### Training Programs

The training for operators of the loading and reloading equipment is required .

### Sources of Data and Glossary

The information provided on this MSDS is based on our present knowledge and is believed to be accurate and represents the best information currently available to us.

The information given is intended as a guidance for safe handling, storage, transportation, disposal and for the requirements of the health, safety and environmental protection only and is not to be considered a warranty or quality specification.