SAFETY DATA SHEET
Ethanol 99,8%

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

Date issued 26.11.2013

1.1. Product identifier
Product name Ethanol 99,8%
Chemical name Ethyl alcohol
Synonyms methyl carbinol
REACH Reg No. 01-2119457610-43-0000
CAS no. 64-17-5
EC no. 200-578-6
Index no. 603-002-00-5
Article no. 12110000

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

1.3. Details of the supplier of the safety data sheet
Company name Fred Holmberg & Co AB
Office address Geijersgatan 8
Postal address Box 60056
Postcode S-216 10
City Limhamn
Country Sweden
Tel +46 (0)40 15 79 20
Fax +46 (0)40 16 22 95
E-mail info@holmberg.se
Website http://www.holmberg.se/en/

1.4. Emergency telephone number
Emergency telephone 112 (Europe)

SECTION 2: Hazards identification

2.1. Classification of substance or mixture
Classification according to 67/548/EEC or 1999/45/EC F; R11
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Flam. Liq. 2; H225;

2.2. Label elements
Hazard Pictograms (CLP)

Signal word Danger
Hazard statements H225 Highly flammable liquid and vapour.
Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P220 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF IN EYES: Rinse cautiously with plenty of water for several minutes. Get medical attention if irritation persists.
P310 + P360 IF INhaled: Remove victim to fresh air and keep comfortable for breathing.
P370 + P378 In case of fire: Use for extinction.
P371 Do not let run into water. 
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container to

2.3. Other hazards

Other hazards
Not known.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Identification</th>
<th>Classification</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>CAS no.: 64-17-5</td>
<td>F; R11</td>
<td>99.8 %</td>
</tr>
<tr>
<td></td>
<td>EC no.: 200-578-6</td>
<td>Flam. Liq. 2; H225</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index no.: 603-002-00-5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Synonyms: Ethanol

Column headings
CAS no. = Chemical Abstracts Service; EU (Einecs or Elincs number) = European inventory of Existing Commercial Chemical Substances; Ingredient name = Name as specified in the substance list (substances that are not included in the substance list must be translated, if possible). Contents given in; %, %wt/wt, %vol/wt, %vol/vol, mg/m3, ppb, ppm, weight%, vol%

HH/HF/HE
T+ = Very toxic, T = Toxic, C = Corrosive, Xn = Harmful, Xi = Irritating, E = Explosive, O = Oxidizing, F+ = Extremly flammable, F = Very flammable, N = Environmental hazard

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Skin contact Remove contaminated clothes and rinse skin thoroughly with water.

Eye contact Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention if any discomfort continues.

Ingestion NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Do not induce vomiting. Rinse mouth with water. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed

Information for health personnel Treat Symptomatically. Do not give victim anything to drink if he is unconscious.

4.3. Indication of any immediate medical attention and special treatment needed

Specific details on antidotes No recommendation given.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture
5.3. Advice for firefighters

Fire fighting procedures
No specific fire fighting procedure given.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures
Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. Ventilate well. Stop leak if possible without risk. Avoid contact with skin and eyes. Do not breathe vapour.

6.2. Environmental precautions

Environmental precautionary measures
Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Cleaning method
Dam and absorb spillages with sand, earth or other non-combustible material.

6.4. Reference to other sections

Other instructions
No recommendation given.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling
Keep away from heat, sparks and open flame. Take precautionary measures against static discharges. Mechanical ventilation may be required.

Protective Safety Measures

Advice on general occupational hygiene
Provide easy access to water supply and eye wash facilities.

7.2. Conditions for safe storage, including any incompatibilities

Storage
Keep away from heat, sparks and open flame. Ground container and transfer equipment to eliminate static electric sparks. Store in a cool and well-ventilated place.

7.3. Specific end use(s)

Specific use(s)
Not entered.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Information about threshold limit values
Norske grenseverdier; FOR-2011-12-06-1358 vedlegg 1.
Etanol: 8 t.: 500ppm, 950 mg/m3 (2003)

DNEL / PNEC

Exposure guidelines
Country of origin: Sverige
Limit value type: KTV
OEL Short Term Value: 1900 mg/m3
Source: Nationella hygieniska gränsvärden, AFS 2005:17

Other Information
NGV, 1000 mg/m3

8.2. Exposure controls

Occupational exposure limits
Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours. Protective gloves and goggles are recommended. Provide eyewash, quick drench.

Safety signs
**Respiratory protection**
Respiratory protection must be used if air contamination exceeds acceptable level. Use respiratory equipment with gas filter, type A2.

**Hand protection**
Use protective gloves. Chemical resistant gloves required for prolonged or repeated contact. Gloves of nitrile rubber, PVA or Viton are recommended.

**Eye / face protection**
Use safety goggles or face shield in case of splash risk.

**Skin protection**
Wear appropriate clothing to prevent any possibility of skin contact.

**Hygiene / Environmental**
Wash hands after contact.

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odour of alcohol.</td>
</tr>
<tr>
<td>Comments, pH (as supplied)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point/melting range</td>
<td>Value: (-115) °C</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>Value: (78) °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Value: (12) °C</td>
</tr>
<tr>
<td>Explosion limit</td>
<td>Value: (3,5-15) %</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Value: (5,9) kPa</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Value: (1,6)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>Value: (789) kg/m3</td>
</tr>
<tr>
<td>Solubility description</td>
<td>Completely soluble in water. Soluble in: Organic solvents.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Value: (-0,32)</td>
</tr>
<tr>
<td>Spontaneous combustability</td>
<td>Value: (425) °C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Value: (1,2) mPas</td>
</tr>
<tr>
<td>Test temperature:</td>
<td>Test temperature: (20) °C</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
Heating may cause a fire.

#### 10.2. Chemical stability
Stable under the prescribed storage conditions.

#### 10.3. Possibility of hazardous reactions
Not known.

#### 10.4. Conditions to avoid
Avoid heat, flames and other sources of ignition.

#### 10.5. Incompatible materials
Avoid contact with oxidising agents (e.g. nitric acid, peroxides and chromates). Strong acids.

#### 10.6. Hazardous decomposition products
Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

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### SECTION 11: Toxicological information
11.1. Information on toxicological effects

Toxicological Information:

Other toxicological data
- Acute Toxicity (Oral LD50): mg/kg (oral rat) 7060
- Acute Toxicity (Inhalation LC50): mg/l (vapours) (4h) 124.7
- Acute Toxicity (Dermal LD50): mg/kg (ipr-rat) > 20 000

Potential acute effects

Inhalation
In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Icke klassificerad som aspirationstoxisk (Not classified as asp. tox.)

Skin contact
Prolonged or frequent contact may cause redness, itching, eczema and skin cracking. Defats the skin.

Eye contact
Causes serious eye irritation.

Ingestion
Ingestion of large amounts may cause unconsciousness. However, ingestion may cause nausea, headache, dizziness and intoxication. Ingestion may cause irritation of the gastrointestinal tract, vomiting and diarrhoea. May cause irritation to the mouth and throat.

Delayed effects / repeated exposure

Sensitisation
Not known.

Chronic effects
None known.

Carcinogenic, Mutagenic or Reprotoxic

Carcinogenicity
None.

Mutagenicity
Not known.

Teratogenic properties
Not known.

Reproductive toxicity
Not known.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic, fish
- Value: 13500 mg/l
- Method of testing: LC50
- Fish, species: Pimephales promelas
- Duration: 96h

Acute aquatic, algae
- Value: 5000 mg/l
- Method of testing: IC50
- Algae, species: Scenedesmus subspicatus
- Duration: 7d

Acute aquatic, Daphnia
- Value: 5400 mg/l
- Method of testing: EC50
- Daphnia, species: D. magna
- Duration: 72h

12.2. Persistence and degradability

Degradation half life
Lättndebrytbart. 85% bryts ned på 28 dygn OECD 301D

Chemical oxygen demand (COD)
- Value: 0.4-0.8
- Method of testing: COD

Biological oxygen demand (BOD)
- Value: 0.4-0.8
- Method of testing: BOD

12.3. Bioaccumulative potential

Bioaccumulative potential
Will not bio-accumulate.

Bioconcentration factor (BCF)
- Value: 0.66
- Method of testing: BCF

12.4. Mobility in soil

Mobility
The product is water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment
PBT assessment results
This substance is not classified as PBT or vPvB.

12.6. Other adverse effects
Other adverse effects / Remarks None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Specify the appropriate methods of disposal
Confirm disposal procedures with environmental engineer and local regulations. Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Liquid components can be disposed of by incineration.

Product classified as hazardous waste
Yes

Packaging classified as hazardous waste
No

SECTION 14: Transport information

14.1. UN number
ADR 1170
RID 1170
IMDG 1170
ICAO/IATA 1170

14.2. UN proper shipping name
ADR ETHANOL
RID ETHANOL
IMDG ETHANOL
ICAO/IATA ETHANOL

14.3. Transport hazard class(es)
ADR 3
Hazard no. 33
RID 3
ADN 33
IMDG 3
ICAO/IATA 3

14.4. Packing group
ADR II
RID II
IMDG II
ICAO/IATA II

14.5. Environmental hazards
Comment Not relevant.

14.6. Special precautions for user
EmS F-E, S-D

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

EC no. 200-578-6

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.2. Chemical safety assessment

SECTION 16: Other information

Hazard symbol

R-phrases
S-phrases
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
List of relevant R-phrases (under headings 2 and 3).
List of relevant H-phrases (Section 2 and 3).
Responsible for safety data sheet

R11 Highly flammable.
S2 Keep out of the reach of children.
S7 Keep container tightly closed.
S16 Keep away from sources of ignition - No smoking.
Flam. Liq. 2; H225;
R11 Highly flammable.
H225 Highly flammable liquid and vapour.
Fred Holmberg & Co AB