according to UK REACH Regulation

Ethanol

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

1.1. Product identifier

Ethanol

CAS No: 64-17-5 Index No: 603-002-00-5 EC No: 200-578-6

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: ABX advanced biochemical compounds

Biomedizinische Forschungsreagenzien GmbH

Street: Heinrich-Gläser-Straße 10-14

Place: 01454 Radeberg
Telephone: +49 3528 4041 60

Telephone: +49 3528 4041 60 Telefax: +49 3528 4041 65

e-mail: info@abx.de

Contact person: Dr. Christoph Meyer Telephone: +49 3528 4041 8732

e-mail: meyer@abx.de Internet: http://www.abx.de 1.4. Emergency telephone +49 3528 4041 60

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Flam. Liq. 2; H225

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Danger

Pictograms:



Hazard statements

H225 Highly flammable liquid and vapour.

Precautionary statements

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

smoking.

SECTION 3: Composition/information on ingredients

3.1. Substances

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Hazardous components

| CAS No | Chemical name | Chemical name | | | |
|---------|------------------------------------|------------------------|----------|--|--|
| | EC No | Index No | REACH No | | |
| | Classification (GB CLP Regulation) | | | | |
| 64-17-5 | ethanol; ethyl alcohol | ethanol; ethyl alcohol | | | |
| | 200-578-6 | 603-002-00-5 | | | |
| | Flam. Liq. 2; H225 | | | | |

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|---------|---|---------------------------|--------------|
| | Specific Conc. L | Limits, M-factors and ATE | |
| 64-17-5 | 200-578-6 | ethanol; ethyl alcohol | 95 - < 100 % |
| | inhalation: LC50 = 95,6 mg/l (vapours); oral: LD50 = 6200 mg/kg | | |

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Provide fresh air.

After contact with skin

After contact with skin, wash immediately with: Water. Change contaminated clothing.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

After ingestion

If swallowed, immediately drink: Water.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water. Carbon dioxide (CO2). Foam. Extinguishing powder.

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Provide adequate ventilation.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Explosion hazard.

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the

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recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

Advice on general occupational hygiene

Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking.

Hints on joint storage

Do not store together with: Material, rich in oxygen, oxidizing.

Further information on storage conditions

storage temperature: up to °C: +30

Protect against: Light.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m³ | fibres/ml | Category | Origin |
|---------|-----------|------|-------|-----------|-----------|--------|
| 64-17-5 | Ethanol | 1000 | 1920 | | TWA (8 h) | WEL |

8.2. Exposure controls

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid
Colour: colourless

Changes in the physical state

Melting point/freezing point:

-114 °C

Boiling point or initial boiling point and

78 °C

boiling range:

Flash point: 12 °C

Lower explosion limits: 3,5 vol. %
Upper explosion limits: 15 vol. %
Vapour pressure: 58 hPa

(at 20 °C)

Vapour pressure: 293 hPa

(at 50 °C)

Density: 0,79 g/cm³

SECTION 10: Stability and reactivity

10.4. Conditions to avoid

Keep away from heat. Ignition hazard.

according to UK REACH Regulation

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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Acute toxicity

| CAS No | Chemical name | | | | | | |
|---------|-------------------------|---------------|-----------|---------|--------|--------|--|
| | Exposure route | Dose | | Species | Source | Method | |
| 64-17-5 | ethanol; ethyl alcohol | | | | | | |
| | oral | LD50 mg/kg | 6200 | Rat | IUCLID | | |
| | inhalation (4 h) vapour | LC50 | 95,6 mg/l | Rat | RTECS | | |

Additional information on tests

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information

12.1. Toxicity

| CAS No | Chemical name | | | | | | |
|---------|---|---------------------------|------|---------------|--------|--|--|
| | Aquatic toxicity Dose [h] [d] Species Source Method | | | | | | |
| 64-17-5 | ethanol; ethyl alcohol | | | | | | |
| | Acute crustacea toxicity | EC50 9268 - 14221 mg/l | 48 h | Daphnia magna | IUCLID | | |

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|---------|------------------------|---------|
| 64-17-5 | ethanol; ethyl alcohol | -0,31 |

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

Further information

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

Contaminated packaging

Water (with cleaning agent). Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:UN 117014.2. UN proper shipping name:Ethanol14.3. Transport hazard class(es):3

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|-----------------------------------|------------------------------|-------------|
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| 14.4. Packing group: | II | |
| Hazard label: | 3 | |
| Inland waterways transport (ADN) | | |
| 14.1. UN number or ID number: | UN 1170 | |
| 14.2. UN proper shipping name: | Ethanol | |
| 14.3. Transport hazard class(es): | 3 | |
| 14.4. Packing group: | II | |
| Hazard label: | 3 | |
| Marine transport (IMDG) | | |
| 14.1. UN number or ID number: | UN 1170 | |
| 14.2. UN proper shipping name: | Ethanol | |
| 14.3. Transport hazard class(es): | 3 | |
| 14.4. Packing group: | II | |
| Hazard label: | 3 | |
| Air transport (ICAO-TI/IATA-DGR) | | |
| 14.1. UN number or ID number: | UN 1170 | |
| 14.2. UN proper shipping name: | Ethanol | |
| 14.3. Transport hazard class(es): | 3 | |
| 14.4. Packing group: | II | |
| Hazard label: | 3 | |

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

2004/42/EC (VOC): 99,5 %

National regulatory information

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.