

Section 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product name: Ethanol
CAS Number: 64-17-5
EC Number: 200-578-6

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

Recommended use: Reagent for analysis, chemical production

1.3 Details of the supplier of the safety data sheet

Company name: East Harbour Group Ltd
20 Clough Road, Severalls Industrial Park
Colchester, Essex, CO4 9QS
United Kingdom

Telephone: +44 (0) 333 242 0100
Email: info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone: 0800 246 1274

Section 2: Hazardous identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Flammable liquids (Category 2), H225
Eye irritation (Category 2), H319

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements**Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Danger

Ethanol

Hazard statement(s)

H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

Reduced Labelling (<= 125 ml)
Pictogram


Signal word Danger

Hazard statement(s) none

Precautionary statement(s) none

Supplemental Hazard Statements none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3: Composition/information on ingredients

3.1 Substances

Formula: C₂H₆O
Molecular weight: 46.07 g/mol
CAS-No.: 64-17-5
EC-No.: 200-578-6
Index-No.: 603-002-00-5

Component	Classification	Concentration
Ethanol		
CAS No. 64-17-5 EC No. 200-578-6 Index No. 603-002-00-5	Flam. Liq. 2; Eye Irrit. 2; H225, H319 Concentration limits: >= 50 % Eye Irrit. 2A, H319;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.



Ethanol

Section 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing, immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

2 Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Combustible.

Pay attention to flashback.

Vapours are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.



Ethanol

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion

6.3 Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place.
Keep away from heat and sources of ignition.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated



Ethanol

Section 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Component	CAS-No	Value	Control Parameters	Basis
Ethanol	64-17-5	TWA	1,000 ppm 1,920 mg/m ³	UK. EH40 WEL – Workplace exposure limits

8.2 Exposure controls

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898) This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 120 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.



Ethanol

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid
	Colour: colourless
Odor	Pungent
Odor Threshold	0.1 ppm
pH	7.0 at 10 g/l at 20 °C
Melting Point/freezing point	-144.0 °C at 1,013.25 hPa
Initial Boiling Point and Boiling Range	78.29 °C at 1,013 hPa
Flash Point	13 °C - closed cup
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosion Limits	Upper explosion limit: 13.5 %(V) Lower explosion limit: 2.5 %(V)
Vapor Pressure	0.57 hPa at 19.6 °C
Vapor Density	1.6
Relative Density	No data available
Water Solubility	1,000 g/l at 20 °C - completely miscible
Partition Coefficient: n-octanol/water	log Pow: -0.35 at 24 °C - Bioaccumulation is not expected.
Auto-ignition temperature	455 °C at 1,013 hPa - DIN 51794
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 1.2 mPa.s at 20 °C 0.54 - 0.59 mPa.s at 25 °C
Explosive properties	No data available
Oxidizing properties	No data available

Section 10: Stability and Reactivity

10.1 Reactivity

10.2 Chemical Stability

10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air
 The product is chemically stable under standard ambient conditions (room temperature).
 Risk of explosion/exothermic reaction with:
 hydrogen peroxide
 perchlorates
 perchloric acid
 Nitric acid
 mercury(II) nitrate
 permanganic acid
 Nitriles
 peroxi compounds

Ethanol



Strong oxidizing agents
 nitrosyl compounds
 Peroxides
 sodium
 Potassium
 Halogen oxides
 calcium hypochlorite
 nitrogen dioxide
 metallic oxides
 uranium hexafluoride
 iodides
 Chlorine
 Alkali metals
 Alkaline earth metals
 alkali oxides
 Ethylene oxide
 silver with Nitric acid
 silver compounds with Ammonia
 potassium permanganate with conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapours with: halogen-halogen compounds
 chromium (VI) oxide chromyl chloride Fluorine hydrides
 Oxides of phosphorus platinum Nitric acid with potassium permanganate
 Warming
 rubber, various plastics
 In the event of fire: see section 5

- 10.4 Conditions to avoid
- 10.5 Incompatible materials
- 10.6 Hazardous decomposition products

Section 11: Toxicological Information

11.1 Toxicological effects:

Acute toxicity

LD50 Oral - Rat - male and female - 10,470 mg/kg
 (OECD Test Guideline 401)
 LC50 Inhalation - Rat - male and female - 4 h - 124.7 mg/l
 (OECD Test Guideline 403)
 Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit
 Result: No skin irritation - 24 h
 (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit
 Result: Causes serious eye irritation.
 (OECD Test Guideline 405)



Ethanol

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Methanol

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: dominant lethal test

Species: Mouse

Application Route: Oral

Method: OECD Test Guideline 478

Result: Positive results were obtained in some in vivo tests.

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2. Acute Toxicity:

Repeated dose toxicity - Rat - male - Oral - NOAEL (No observed adverse effect level) - 1,730 mg/kg - LOAEL (Lowest observed adverse effect level) - 3,200 mg/kg irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.



Ethanol

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 15,300 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	static test LC50 - Ceriodaphnia dubia (water flea) - 5,012 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	static test ErC50 - Chlorella vulgaris (Fresh water algae) - 275 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test IC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 15 d Result: ca.95 % - Readily biodegradable. (OECD Test Guideline 301E)
Biochemical Oxygen Demand (BOD)	930 - 1,670 mg/g Remarks: (Lit.)
Theoretical oxygen demand	2,100 mg/g Remarks: (Lit.)

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No interference with wastewater treatment plants are to be expected when used properly. Discharge into the environment must be avoided.

Section 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal of substance:

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Container disposal:

Dispose of as unused product.



Ethanol

Section 14: Transport Information

14.1 UN number

ADR/RID: 1170

IMDG: 1170

IATA: 1170

14.2 UN proper shipping name

ADR/RID: ETHANOL

IMDG: ETHANOL

IATA: Ethanol

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Section 15: Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation

Seveso III: Directive 2012/18/EU of the European FLAMMABLE LIQUIDS Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

H225

Highly flammable liquid and vapor.

H319

Causes serious eye irritation.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.