


Safety data sheet

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

1.1 Product identifiers	
Product name:	Ethanol
CAS:	64-17-5
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Identified uses	Reagent for analysis, Pharmaceutical production and analysis
1.3 Details of the supplier of the safety data sheet	
Company:	Thomasker Finomvegyszer Kft.
Address:	1163 Budapest, Cziráki u. 26-32.
Telephone:	+36-1-403-58-10
Fax:	+36-1-403-86-55
E-mail:	iroda@thomasker.hu
1.4 Emergency telephone	
Emergency telephone	Egészségügyi Toxikológiai Szolgálat +36 80 201 199

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture	
Flammable liquids, (Category 2) H225: Highly flammable liquid and vapor Eye irritation, (Category 2) H319: Causes serious eye irritation	
2.2 Label elements	
Labelling according Regulation (EC) No 1272/2008	
Pictogram	
Signal Word	Danger
Hazard Statements	H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation.
Precautionary Statements	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	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.
Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients**3.1 Anyagok**

Formula:	C ₂ H ₆ O
Molecular weight:	46,07 g/mol
CAS:	64-17-5
EU szám:	200-578-6

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

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: Firefighting measures**5.1 Extinguishing media Suitable extinguishing media**

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. Vapors 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, 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 materials 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.

Storage class

Storage class (TRGS 510): 3: Flammable liquids

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	inhalation	Local effects	1900 mg/m ³
Worker DNEL, longterm	dermal	Systemic effects	
Worker DNEL, longterm	inhalation	Systemic effects	950 mg/m ³
Consumer DNEL, acute	inhalation	Local effects	950 mg/m ³
Consumer DNEL, longterm	dermal	Systemic effects	
Consumer DNEL, longterm	inhalation	Systemic effects	114 mg/m ³
Consumer DNEL, longterm	oral	Systemic effects	

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0,96 mg/l
Sea water	0,79 mg/l
Fresh water sediment	3,6 mg/kg
Soil	0,63 mg/kg
Aquatic intermittent release	2,75 mg/l
Sewage treatment plant	580 mg/l
oral	720 mg/kg

8.2 Exposure controls
Personal protective equipment
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 EN 16523-1 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)

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.

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

- a) Physical state liquid
- b) Color colorless
- c) Odor alcohol-like
- d) Melting point/freezing point Melting point/freezing point: -114,0 °C at 1.013,25 hPa
- e) Initial boiling point and boiling range 78,29 °C at 1.013 hPa
- f) Flammability (solid, gas) No data available
- g) Upper/lower flammability or explosive limits
Upper explosion limit: 27,7 %(V)
Lower explosion limit: 3,1 %(V)
- h) Flash point 13 °C - closed cup
- i) Autoignition temperature 363 - 425 °C at 1.013 hPa
- j) Decomposition temperature
Distillable in an undecomposed state at normal pressure.
- k) pH 7,0 at 10 g/l at 20 °C
- l) Viscosity Viscosity, kinematic: No data available
Viscosity, dynamic: 1,2 mPa.s at 20 °C
- m) Water solubility 1.000 g/l at 20 °C - completely miscible
- n) Partition coefficient: n-octanol/water log Pow: -0,35 at 24 °C - Bioaccumulation is not expected.
- o) Vapor pressure 57,26 hPa at 19,6 °C
- p) Density 0,79 g/cm³ at 20 °C
Relative density No data available
- q) Relative vapor density No data available

- r) Particle characteristics No data available
s) Explosive properties No data available
t) Oxidizing properties none

9.2 Other safety information

Conductivity < 1 $\mu\text{S}/\text{cm}$

Surface tension 22,31 mN/m at 20 °C - similar to water

Relative vapor density 1,6

SECTION 10: Stability and reactivity**10.1 Reactivity**

Vapors may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Risk of explosion/exothermic reaction with: hydrogen peroxide

perchlorates

perchloric acid

Nitric acid

mercury(II) nitrate

permanganic acid

Nitriles

peroxi compounds

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

10.4 Conditions to avoid

Warming.

Warming.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information**11.1 Information on 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 - vapor

(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)

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 Additional Information**Endocrine disrupting properties**

Product: Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. 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.

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)

Toxicity to fish(Chronic toxicity) semi-static test NOEC - Danio rerio (zebra fish) - 250 mg/l - 120 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)

semi-static test NOEC - Daphnia magna (Water flea) - 9,6 mg/l - 9 d Remarks: (ECHA)

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 Endocrine disrupting properties**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. 12.7 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**

No data available

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

Tunnel restriction code : (D/E) Further information : No data available

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 Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P5c FLAMMABLE LIQUIDS 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 H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

Our partners can make any number of paper copies of this safety data sheet for internal use.

The above information is accurate to the best of our knowledge, but is not intended to be comprehensive and is intended as a guide only. Thomasker Kft. does not assume any responsibility for damage caused by the handling of the product or contact with it. Our detailed delivery conditions can be found on the back of the invoice.

Verziószám: 1.2