# Material Safety Data Sheet

**Version:01**
**Revision Date 4/5/2025**

| Section 1. Product Information and Company Identification | | | |
|---|---|---|---|
| **Product name** | Ethanol 96% | | |
| **Mol. formula** | C2H6O | **CAS No.** | 64-17-5 |
| **Mol.wt** | 46.07 g/mol | | |
| **Manufacturer name** | Pioneers for laboratory chemicals | | |
| **Brand name** | Piochem | | |
| **Address** | Area 540, Industrial Zone 6th October city Giza, Egypt. | | |
| **Website** | www.piochem.com | | |
| **E-mail** | info@piochem.com | | |
| **Phone number** | +201225728304 , +201023932115 | | |

## 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 Statements | none |

**Reduced Labeling (<= 125 ml)**

Pictogram

| | |
|---|---|
| Signal Word | Danger |
| Hazard Statements | none |
| Precautionary Statements | 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.

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 Substances

| | | |
|---|---|---|
| Formula | : | C2H6O |
| CAS-No. | : | 64-17-5 |
| EC-No. | : | 200-578-6 |
| Index-No. | : | 603-002-00-5 |

| Component | | Classification | Concentration |
|---|---|---|---|
| **ethanol** | | | |
| CAS-No.<br>EC-No. | 64-17-5<br>200-578-6 | Flam. Liq. 2; Eye Irrit. 2; H225, H319 | <= 100 % |

| | | | |
|---|---|---|---|
| Index-No. | 603-002-00-5 | Concentration limits:<br>>= 50 %: Eye Irrit. 2A, H319; | |

## 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**

### 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)

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).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,40 mm
Break through time: 120 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

**Body Protection**
Flame retardant antistatic protective clothing.

**Respiratory protection**
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type ABEK

The entrepeneur 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: -117 °C |
| e) | Initial boiling point and boiling range | 78 °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)<br>Lower explosion limit: 3,1 %(V) |
| h) | Flash point | 17 °C |
| i) | Autoignition temperature | No data available |
| 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<br>Viscosity, dynamic: 1,2 mPa.s at 20 °C |
| m) | Water solubility | at 20 °C soluble |
| n) | Partition coefficient: n-octanol/water | log Pow: -0,31 - (Lit.), Bioaccumulation is not expected. |
| o) | Vapor pressure | ca.59 hPa at 20 °C |
| p) | Density | 0,805 - 0,812 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 | Not classified as explosive. |
| t) | Oxidizing properties | none |

### 9.2 Other safety information

No data available

## 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.

**10.5 Incompatible materials**

Rubber, various plastics

### 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)
LD50 Oral - Rat - male and female - 10.470 mg/kg (ethanol)
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 4 h - 124,7 mg/l - vapor(OECD Test Guideline 403)

LC50 Inhalation - Rat - male and female - 4 h - 124,7 mg/l - vapor
(ethanol)
(OECD Test Guideline 403)
Dermal: No data available

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

**Serious eye damage/eye irritation**
Eyes - Rabbit (ethanol)
Result: Causes serious eye irritation.
(OECD Test Guideline 405)

**Respiratory or skin sensitization**
Maximization Test - Guinea pig (ethanol)
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 test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
Test Type: Ames test
(ethanol)
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
(ethanol)
Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
(ethanol)
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
(ethanol)
irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting (ethanol)
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 (ethanol)<br>(US-EPA) |
| Toxicity to daphnia and other aquatic invertebrates | static test LC50 - Ceriodaphnia dubia (water flea) - 5.012 mg/l - 48 h (ethanol)<br>Remarks: (ECHA) |
| Toxicity to algae | IC5 - Scenedesmus quadricauda (Green algae) - 5.000 mg/l - 7 d |

Remarks: (Lit.)

| | |
|---|---|
| Toxicity to algae | static test ErC50 - Chlorella vulgaris (Fresh water algae) - 275 mg/l - 72 h (ethanol)<br>(OECD Test Guideline 201) |
| Toxicity to bacteria | static test IC50 - activated sludge - > 1.000 mg/l - 3 h (ethanol)<br>(OECD Test Guideline 209) |
| Toxicity to fish(Chronic toxicity) | semi-static test NOEC - Danio rerio (zebra fish) - 250 mg/l - 120 h (ethanol)<br>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 (ethanol)<br>Remarks: (ECHA) |

**12.2 Persistence and degradability**

| | |
|---|---|
| Biodegradability | aerobic - Exposure time 15 d (ethanol)<br>Result: ca.95 % - Readily biodegradable.<br>(OECD Test Guideline 301E) |
| Biochemical Oxygen Demand (BOD) | 930 - 1.670 mg/g (ethanol)<br>Remarks: (Lit.) |
| Theoretical oxygen demand | 2.100 mg/g (ethanol)<br>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

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## 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.