

Safety Data Sheet acc. to OSHA HCS

Date of issue: 04/02/2025

Reviewed on 04/02/2025

1 Identification

- **Product identifier**
- **Trade name:** Ethyl alcohol 96%
- **CAS Number:**
64-17-5
- **Other means of identification**
- **Article number:** CH0805

- **EC number:**
200-578-6
- **Index number:**
603-002-00-5
- **Application of the substance / the mixture** Chemicals products for laboratory

- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
CARLO ERBA REAGENTS
Chaussée du Vexin
Parc d'Affaires des Portes - BP616
27106 VAL DE REUIL Cedex
Téléphone: +33 (0)2 32 09 20 00
Télécopie: +33 (0)2 32 09 20 20
- **Information department:**
Q.A / Normative
email: MSDS_CER-SDS@cer.dgroup.it
- **Emergency telephone number:**
US 911
CHEMTREC 1-800-424-9300 (Staffed 24/7)
American Association of Poison Control Centers 1-800-222-1222 (Staffed 24/7)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable liquids 2 Highly flammable liquid and vapor.



GHS08 Health hazard

Carcinogenicity 1A May cause cancer.



GHS07

Eye irritation 2A Causes serious eye irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

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Hazard pictograms


GHS02 GHS07 GHS08

Signal word *Danger*
Hazard-determining components of labeling:
Ethyl alcohol
Hazard statements
Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause cancer.
Precautionary statements
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Use explosion-proof [electrical/ventilating/lighting] equipment.
Wear protective gloves / eye protection / face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Information pertaining to particular dangers for man and environment:
Classification system:
NFPA ratings (scale 0-4)

Health = 2
Fire = 3
Reactivity = 0
Other hazards
Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*
Classification according to (d)(1)(ii) of § 1910.1200
The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.
Hazards not otherwise classified
There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

3 Composition/information on ingredients

Chemical characterization: Substances
CAS No. Description

CAS: 64-17-5 Ethyl alcohol

Identification number(s)
EC number: 200-578-6

Index number: 603-002-00-5

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Description:

CAS: 7732-18-5 EINECS: 231-791-2 RTECS: ZC 0110000	water, distilled, conductivity or of similarpurity	>0-≤100%
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Dangerous components:

CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5 RTECS: KQ 6300000	Ethyl alcohol	50-100%
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4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Seek immediate medical advice.
- **After swallowing:**
Call immediately a doctor.
If symptoms persist consult doctor.
- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Alcohol resistant foam
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Keep away from ignition sources
Wear protective equipment. Keep unprotected persons away.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Ensure adequate ventilation
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to penetrate the ground/soil.
Dilute with plenty of water.
Prevent seepage into sewage system, workpits and cellars.

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· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

1,800 ppm

· **PAC-2:**

3300* ppm

· **PAC-3:**

15000* ppm

· **Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**

Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Only handle and refill product in closed systems.
Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
Pneumatic conveyance only with nitrogen.

· **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Protect from heat.
Protect against electrostatic charges.
Use explosion-proof apparatus / fittings and spark-proof tools.
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.
Use only receptacles specifically permitted for this substance/product.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

CAS: 64-17-5 Ethyl alcohol

PEL Long-term value: 1900 mg/m³, 1000 ppm

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REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1880 mg/m ³ , 1000 ppm
	A3

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Use suitable respiratory protective device only when aerosol or mist is formed.

Filter AX



In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Filter P2

· **Protection of hands:**

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

Rubber gloves

Only use chemical-protective gloves with CE-labeling of category III.

Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact gloves made of the following materials are suitable:**

The penetration time has to be at least 480 minutes

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 mm

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.4 mm

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

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- **Limitation and supervision of exposure into the environment**
In case of unintended release of the product: See section 6 of the Safety Data Sheet.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information** 46 g
- **Physical state** Liquid
- **Color:** Colorless
- **Odor:** Like alcohol
- **Odor threshold:** Not determined.
- **Melting point/Melting range:** -114.5 °C (-174.1 °F)
- **Boiling point/Boiling range:** 78 °C (172.4 °F)
- **Flammability:** Highly flammable.
- **Explosion limits:**
- **Lower:** 3.5 Vol %
- **Upper:** 15 Vol %
- **Flash point:** 13 °C (55.4 °F)
- **Auto igniting:** 425 °C (797 °F)
- **Decomposition temperature:** Not determined.
- **pH-value:** 7
- **Viscosity:**
- **Kinematic:** Not determined.
- **Dynamic at 20 °C (68 °F):** 1.2 mPas
- **Solubility in / Miscibility with**
- **Water at 20 °C (68 °F):** 1 g/l
- **Partition coefficient (n-octanol/water):** Not determined.
- **Vapor pressure at 20 °C (68 °F):** 59 hPa (44.3 mm Hg)
- **Vapor pressure:**
- **Density at 20 °C (68 °F):** 0.80333 g/cm³ (6.70379 lbs/gal)
- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Particle characteristics** Not applicable.

- **Other information**
- **Appearance:**
- **Form:** Fluid

- **Important information on protection of health and environment, and on safety.**

64-17-5 Ethyl alcohol MIE (TRGS-727) 0,28 mJ

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Organic solvents:** 93.7 %
- **Water:** 6.3 %
- **Change in condition**
- **Evaporation rate** Not determined.

10 Stability and reactivity

- **Reactivity** See 10.3

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- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**

CAS: 64-17-5 Ethyl alcohol

Oral	LD50	6,200-15,000 mg/kg (rat)
Dermal	LD50	17,100 mg/kg (rabbit)
Inhalative	LC50/4 h	117 mg/L (rat)
	LC50	>50 mg/m ³ (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:**
Strong irritant with the danger of severe eye injury.
Causes serious eye irritation.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):** No further relevant information available.
- **Additional toxicological information:**
- **Interactive effects** No interactive effects between components are known.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

1

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Alternative sources for toxicological information**

No non-standard sources for toxicological information where used.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

CAS: 64-17-5 Ethyl alcohol

EC50/48h	5,012 mg/l (Daphnia) (freshwater)
EC50	72 mg/L (algae)
LC50/96h	11,200 mg/l (fishes) (freshwater)

- **Persistence and degradability** No further relevant information available.

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- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Contact waste processors for recycling information.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations. Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agent:** *Water, if necessary with cleansing agents.*

14 Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, IMDG, IATA | <p style="margin-left: 20px;">UN1170</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · IMDG · IATA | <p style="margin-left: 20px;">Ethanol solutions
 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
 Ethanol solution</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <p style="margin-left: 20px;"></p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3 Flammable liquids
3</p> |
| | |
| <ul style="list-style-type: none"> · IMDG, IATA | <p style="margin-left: 20px;"></p> |
| <ul style="list-style-type: none"> · Class · Label | <p style="margin-left: 20px;">3 Flammable liquids
3</p> |

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· Packing group · DOT, IMDG, IATA	II
· Environmental hazards: · Marine pollutant:	No
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· Transport/Additional information: · DOT · Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids 33 F-E,S-D A
· UN "Model Regulation":	UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

15 Regulatory information

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

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act)**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

A3

· **MAK (German Maximum Workplace Concentration)**

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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
Wasser	5-10
NK	50-100

· **Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

0.0 g/l

0.00 %

· **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints** Deploy only trained chemical workers.

· **Department issuing SDS:** Q.A / Normative

· **Date of previous version** 03/03/2021

· **Version number of previous version:** 23

· **Date of preparation** 04/02/2025

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

IMO: International Maritime Organization

Flammable liquids 2: Flammable liquids – Category 2

Eye irritation 2A: Serious eye damage/eye irritation – Category 2A

Carcinogenicity 1A: Carcinogenicity – Category 1A

· **Sources**

Globally Harmonized System, GHS

ADR/RID, IMDG, IATA

PubChem: an open chemistry database at the National Institutes of Health (NIH)

ECHA: European Chemicals Agency

· *** Data compared to the previous version altered. .**