

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 28.02.2023

Version number 5

Revision: 28.02.2023

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

- **1.1 Product identifier**
- **Trade name:** Ethanol undenaturated 96%
- **Article number:** 11094
- **Registration number**
UK REACH Registration number
of Ethanol (CAS-No. 64-17-5): 01-2119457610-43
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture:** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SERVA Electrophoresis GmbH
Carl-Benz-Str. 7
D-69115 Heidelberg
Tel.: +49 6221 13840-0
FAX: +49 6221 13840-10
msds.info@serva.de
- **Information department:** Product Safety department Tel.: +49 6221 13840-35
- **1.4 Emergency telephone number:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)

SERVA
■ serving scientists ■

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008:**



GHS02

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms:** GHS02, GHS07
- **Signal word:** Danger
- **Hazard statements:**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
- **Precautionary statements**
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P243 Take action to prevent static discharges.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- **Labelling of packages where the contents do not exceed 125 ml**

- **Hazard pictograms** GHS02, GHS07

- **Signal word** Danger

- **Hazard statements** Void

- **Precautionary statements**

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

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment:**

- **PBT:** PBT - assessment not available.

- **vPvB:** vPvB - assessment not available.

SECTION 3: Composition/information on ingredients

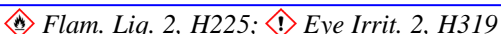

- **3.2 Mixtures**

- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

CAS: 64-17-5

ethanol

 Flam. Liq. 2, H225;  Eye Irrit. 2, H319

80-100%

EINECS: 200-578-6

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 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. Consult doctor if you feel unwell.

- **After eye contact:**

Rinse opened eye for several minutes under running water. Remove present contact lenses, if easy to do, and continue rinsing. Consult ophthalmologist In case of complaints.

- **After swallowing:**

Wash out mouth. Drink plenty of water and supply fresh air. Seek medical advice if discomfort occurs.

Do not induce vomiting!

- **4.2 Most important symptoms and effects, both acute and delayed** Dizziness

- **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **5.2 Special hazards arising from the substance or mixture:**

Vapours can form flammable and explosive mixtures with air.

Vapours are heavier than air and spread over the floor. Accumulation in low areas is possible.

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be formed, but not limited to:

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- Carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Particular danger of slipping on leaked/spilled product.
- **6.2 Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up**
Dispose contaminated material as waste according to item 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling:** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Protect against electrostatic charges.
Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Unsuitable material for receptacle: aluminium.
Store in a cool location.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Store containers in a dry and well-ventilated place.
Keep receptacle tightly sealed.
- **7.3 Specific end use(s):** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
 - **Components with limit values that require monitoring at the workplace:**
- | |
|--|
| 64-17-5 ethanol (80-100%) |
| WEL Long-term value: 1920 mg/m ³ , 1000 ppm |
- **DNELs**
Worker: short term exposition - local effects, inhalation: 950 mg/m³
Worker: Long term exposition - systemic effects, dermal: 343 mg/kg bw/d
 - **PNECs**
PNEC fresh water: 0,96 mg/l
PNEC marine water: 0,79 mg/l
PNEC sewage treatment plant: 580 mg/l
PNEC fresh water sediment: 3,6 mg/kg
PNEC marine water sediment: 2,9 mg/kg
PNEC soil: 0,63 mg/kg

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- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **8.2 Exposure controls**
- **Appropriate engineering controls:** *No further data; see item 7.*
- **Individual protection measures, such as personal protective equipment:**
- **General protective and hygienic measures:**
*Keep away from foodstuffs, beverages and feed.
 Store protective clothing separately.
 Immediately remove all soiled and contaminated clothing
 Avoid contact with the eyes and skin.
 Wash hands before breaks and at the end of work.
 Avoid contact with the eyes.*
- **Breathing equipment:**
*Short term filter device:
 Filter A/P2.*
- **Hand protection:**
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/
 the chemical mixture.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the
 degradation*
- **Material of gloves:**
*The selection of the suitable gloves does not only depend on the material, but also on further marks of
 quality and varies from manufacturer to manufacturer.
 The selection of the suitable gloves does not only depend on the material, but also on further marks of
 quality and varies from manufacturer to manufacturer. As the product is a preparation of several
 substances, the resistance of the glove material can not be calculated in advance and has therefore to be
 checked prior to the application.*
- **Penetration time of glove material:**
*The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be
 observed.*
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are
 suitable:**
*Nitrile rubber, NBR
 Butyl rubber, BR
 Chloroprene rubber, CR*
- **Eye/face protection:** *Tightly sealed goggles.*
- **Body protection:** *Protective work clothing.*

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information:**
- **Physical state:** *Fluid*
- **Colour:** *Colourless*
- **Odour:** *Characteristic*
- **Odour threshold:** *Not determined.*
- **Melting point/freezing point:** *-114 °C*
- **Boiling point or initial boiling point and boiling
 range:** *78 °C*
- **Flammability:** *Highly flammable.*
- **Lower and upper explosion limit:**
- **Lower:** *3.4 Vol %*
- **Upper:** *15 Vol %*
- **Flash point:** *12 °C*
- **Ignition temperature:** *425 °C*

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· Decomposition temperature:	no information available
· pH:	no information available Mixture is non-polar/aprotic.
· Viscosity:	
· Kinematic viscosity:	no information available
· Dynamic viscosity at 20 °C:	1.2 mPas
· Solubility:	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value):	no information available
· Vapour pressure at 20 °C:	59 hPa
· Density and/or relative density:	
· Density at 20 °C:	0.79 g/cm ³
· Relative density:	no information available
· 9.2 Other information	The data specified above refer to ethanol (100 %).
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety:	
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Solvent content:	
· Organic solvents:	96.0 %
· VOC %:	96.00 %
· Molecular weight	46.1 g/mol

SECTION 10: Stability and reactivity

- **10.1 Reactivity:** No further relevant information available.
- **10.2 Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions:** Vapours can form flammable and explosive mixtures with air.
- **10.4 Conditions to avoid:**
Avoid high temperatures, flames, sparks
static discharge
- **10.5 Incompatible materials:**
Avoid contact with:
Oxidizers
alkaline earth metals, peroxides, phosphorus oxides, nitrogen oxides, perchlorates, chrome oxides, hydrogen peroxide, nitric (V) acid, sulfuric (VI) acid, acid chlorides
- **10.6 Hazardous decomposition products:** In case of fire: See Section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

Oral	LD50	10,470 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4h	124.7 mg/l (rat)

- **Skin corrosion/irritation:** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation:** Causes serious eye irritation.
- **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

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- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards:**

· **Endocrine disrupting properties:**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity:**
- **Aquatic toxicity:**
LC50/96h (*Oncorhynchus mykiss*): 13000 mg/l
LC50/48h (*Daphnia magna*): 12340 mg/l
Toxicity to algae: NOEC (*Lemna gibba*, OECD 201) = 280 mg/l
- **12.2 Persistence and degradability:** Easily biodegradable
- **Other information:**
OECD 301 B (ready biodegradability/ CO₂ evolution test)
Biodegradation:
97 %
- **12.3 Bioaccumulative potential:** BCF: 0,66 - 3,2 mg/l
- **12.4 Mobility in soil:** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment:**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6 Endocrine disrupting properties:** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects:**
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Disposal must be made according to official regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**
Disposal of uncleaned packagings must be made according to official regulations in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

- | | |
|---------------------------------------|------------------------------|
| · 14.1 UN number or ID number | |
| · ADR, IMDG, IATA | UN1170 |
| · 14.2 UN proper shipping name | |
| · ADR | 1170 ETHANOL (ETHYL ALCOHOL) |
| · IMDG | ETHANOL (ETHYL ALCOHOL) |

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· IATA	ETHANOL
· 14.3 Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class:	3 Flammable liquids.
· Label:	3
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-D
· Stowage Category	A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

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· **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
NK	80-100

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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.

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

· **Department issuing SDS:** Product safety department

· **Contact:** +49 6221 13840-35

· **Date of previous version:** 29.11.2017

· **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

PBT: persistent, bioaccumulative, toxic substance (UK REACH)

vPvB: very persistent, very bioaccumulative substance (UK REACH)

UK REACH: Regulation concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

GB CLP: Regulation on classification, labelling and packaging of substances and mixtures

bw: body weight

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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2