

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 26.04.2018

Version number 2

Revision: 09.01.2018

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

#### 1.1 Product identifier

Trade name: Ethanol denaturated 96 %

**SERVA**  
Electrophoresis

Article number: 11096

Registration number 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

Process category PROC15 Use as laboratory reagent

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)

### 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 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 precautionary measures against static discharge.

P264 Wash thoroughly after handling.

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

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

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- **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.
  - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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 Chemical characterisation: Mixtures**
- **Description:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6	ethanol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319	90-100%
CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	1%
CAS: 78-93-3 EINECS: 201-159-0	butanone ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	1%

· **Additional information**

additional component for the complete denaturing of ethanol: Denatonium benzoate < 0,01%

### 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.
- **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**  
CO<sub>2</sub>, 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.  
Dilute with plenty of water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.
- **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**  
Keep receptacles tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **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.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**  
Protect from heat and direct sunlight.  
Keep receptacle tightly sealed.  
Store containers in a dry and well-ventilated place.
- **7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

- **Additional information about design of technical systems:** No further data; see item 7.
- **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<sup>3</sup>, 1000 ppm

· **DNELs**

Worker: Long term exposition - systemic effects, inhalation: 950 mg/m<sup>3</sup>  
workers: short term exposure-local effects, inhalation: 1900 mg/m<sup>3</sup>  
Worker: Long term exposition - systemic effects, dermal: 343 mg/kg bw/d

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- **PNECs**  
*PNEC fresh water: 0,96 mg/l*  
*PNEC fresh water sediment: 3,6 mg/kg*  
*PNEC marine water: 0,79 mg/l*  
*PNEC marine water sediment: 2,9 mg/kg*  
*PNEC soil: 0,63 mg/kg*  
*PNEC sewage treatment plant: 580 mg/l*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **8.2 Exposure controls**
- **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.*
- **Breathing equipment:**  
*Short term filter device:*  
*Filter A/P2.*
- **Protection of hands:**  
*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.*
- **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 of a maximum of 15 minutes gloves made of the following materials are suitable:**  
*Nitrile rubber, NBR*  
*Butyl rubber, BR*  
*Chloroprene rubber, CR*
- **Eye 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

##### · Appearance:

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

##### · Change in condition

<b>Melting point/freezing point:</b>	-114 °C
<b>Initial boiling point and boiling range:</b>	78 °C

· **Flash point:** 12 °C

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· <b>Flammability (solid, gaseous)</b>	<i>Not applicable.</i>
· <b>Ignition temperature:</b>	<i>425 °C</i>
· <b>Decomposition temperature:</b>	<i>Not determined.</i>
· <b>Self igniting:</b>	<i>Not determined.</i>
· <b>Explosive properties:</b>	<i>Product is not explosive. However, formation of explosive air/vapour mixtures are possible.</i>
· <b>Explosion limits:</b>	
Lower:	<i>3.4 Vol %</i>
Upper:	<i>15 Vol %</i>
· <b>Vapour pressure at 20 °C:</b>	<i>59 hPa</i>
· <b>Density at 20 °C:</b>	<i>0.79 g/cm<sup>3</sup></i>
· <b>Relative density</b>	<i>Not determined.</i>
· <b>Vapour density</b>	<i>Not determined.</i>
· <b>Evaporation rate</b>	<i>Not determined.</i>
· <b>Solubility in / Miscibility with Water at 20 °C:</b>	<i>1000 g/l</i>
· <b>Partition coefficient: n-octanol/water:</b>	<i>Not determined.</i>
· <b>Viscosity:</b>	
dynamic at 20 °C:	<i>1.2 mPas</i>
kinematic:	<i>Not determined.</i>
· <b>Solvent content:</b>	
Organic solvents:	<i>90-100 %</i>
· <b>VOC %:</b>	<i>100.00 %</i>
· <b>VOC g/l:</b>	<i>790.0 g/l</i>
· <b>9.2 Other information</b>	<i>There are no more data available.</i>

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** *No further relevant informations 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 toxicological effects**
- **Acute toxicity** *Based on available data, the classification criteria are not met.*

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

**64-17-5 ethanol**

Oral	LD50	6300 mg/kg (rabbit)
		7060 mg/kg (rat)

- **Primary irritant effect:**
- **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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **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.

\* **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/ CO<sub>2</sub> evolution test)  
Biodegradation:  
97 %
- **12.3 Bioaccumulative potential** BCF: 3,2 mg/l
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.  
Do not allow product to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** PBT - assessment not available.
- **vPvB:** vPvB - assessment not available.
- **12.6 Other adverse effects** No further relevant information available.

\* **SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Disposal must be made according to official regulations.
- **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.

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### SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1170
· 14.2 UN proper shipping name · ADR · IMDG · IATA	1170 ETHANOL (ETHYL ALCOHOL) ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) Ethanol solution
· 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 · Danger code (Kemler): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-D A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · 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
· Transport category · Tunnel restriction code	2 D/E
· 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
· UN "Model Regulation":	UN1170, ETHANOL (ETHYL ALCOHOL), 3, II

### SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- National regulations
- Information about limitation of use: Employment restrictions concerning young persons must be observed.
- Disturbance regulations:  
Critical quantity values according to the regulations on accidents should be adhered to.

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· **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.*

*H336 May cause drowsiness or dizziness.*

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

- **Contact:** +49 6221 13840-35

· **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 (REACH)*

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

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

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

*ADR: Accord européen sur le transport 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 (REACH)*

*PNEC: Predicted No-Effect Concentration (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*

*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

- **\* Data compared to the previous version altered.**