

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/28/2024

Reviewed on 08/28/2024

1 Identification

- **Product identifier**
- **Trade name:** Ethanol denaturated 96 %
- **Article number:** 11096
- **Application of the substance / the mixture:** Laboratory chemicals
- **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
- **Emergency telephone number:**
Emergency medical information in case of poisoning
Poison Information Center Mainz-Tel: +49 (0) 6131 19240
(Advice in German and English)



2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02

Flammable Liquids 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irritation 2A H319 Causes serious eye irritation.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms:** GHS02, GHS07

- **Signal word:** Danger

- **Hazard statements:**

Highly flammable liquid and vapor.

Causes serious eye irritation.

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

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· HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = 2
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment:

· **PBT:** Concentration of substances classified as PBT: < 0,1%

· **vPvB:** concentration of substances classified as vPvB: < 0,1%

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· **Description:** Solution

· Dangerous components:

64-17-5	ethanol	80-100%
67-63-0	propan-2-ol	0.5-1.5%
78-93-3	butanone	0.5-1.5%
3734-33-6	denatonium benzoate	0.1-0.2%

· Additional information:

The product does not contain any other substances that have to be declared according to REACH (Regulation (EC) No. 1907/2006).

For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

· Description of first aid measures

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· After skin contact:

Wash off immediately with soap and water and rinse thoroughly. In case of complaints, consult a doctor.

· After eye contact:

Rinse opened eye for several minutes with running water. Remove existing contact lenses, if possible, and continue rinsing. In case of complaints, consult an ophthalmologist.

· After swallowing:

Rinse mouth immediately. Drink plenty of water and fresh air. Call a doctor immediately.

Do not induce vomiting!

· **Most important symptoms and effects, both acute and delayed** Dizziness

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· Extinguishing media

· Suitable extinguishing agents:

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

· Special hazards arising from the substance or mixture

Vapors may form flammable and explosive mixtures with air.

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

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

· Advice for firefighters

· **Protective equipment:** Wear self-contained breathing apparatus.

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Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective clothing.
Ensure adequate ventilation
Particular danger of slipping on leaked/spilled product.

Environmental precautions:

Prevent seepage into sewage system, workpits and cellars.
Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up

Dispose contaminated material as waste according to section 13.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Protective Action Criteria for Chemicals

PAC-1:

64-17-5	ethanol	1,800 ppm
67-63-0	propan-2-ol	400 ppm
78-93-3	butanone	200 ppm

PAC-2:

64-17-5	ethanol	3300* ppm
67-63-0	propan-2-ol	2000* ppm
78-93-3	butanone	2700* ppm

PAC-3:

64-17-5	ethanol	15000* ppm
67-63-0	propan-2-ol	12000** ppm
78-93-3	butanone	4000* 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:

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

Information about protection against explosions and fires:

Protect against electrostatic charges.
Keep ignition sources away - Do not smoke.

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: Not required.

Further information about storage conditions: Store container tightly closed and dry.

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· **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:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

64-17-5 ethanol (80-100%)

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

67-63-0 propan-2-ol (0.5-1.5%)

PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 400 ppm Long-term value: 200 ppm
BEI, A4	

78-93-3 butanone (0.5-1.5%)

PEL	Long-term value: 590 mg/m ³ , 200 ppm
REL	Short-term value: 885 mg/m ³ , 300 ppm Long-term value: 590 mg/m ³ , 200 ppm
TLV	Short-term value: 150 ppm Long-term value: 75 ppm
BEI, Skin	

· Ingredients with biological limit values:

67-63-0 propan-2-ol (0.5-1.5%)

BEI	40 mg/L
Medium:	urine
Time:	end of shift at end of workweek
Parameter:	Acetone (background, nonspecific)

78-93-3 butanone (0.5-1.5%)

BEI	2 mg/L
Medium:	urine
Time:	end of shift
Parameter:	Methyl ethyl ketone (nonspecific)

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

· Exposure controls

· **Additional information about design of technical systems:** No further data; see section 7.

· 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:

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Filter A/P2

- **Protection of hands:**

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

Chloroprene rubber, CR

- **Eye protection:** Tightly sealed goggles

- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information:**

- **Color:**

Colorless

- **Odor:**

Characteristic

- **Odor threshold:**

Not determined.

- **Melting point/Melting range:**

-114 °C (-173.2 °F)

- **Boiling point/Boiling range:**

78 °C (172.4 °F) (64-17-5 ethanol)

- **Flammability (solid, gaseous):**

Highly flammable.

- **Explosion limits:**

- **Lower:**

3.5 Vol % (64-17-5 ethanol)

- **Upper:**

15 Vol % (64-17-5 ethanol)

- **Flash point:**

12 °C (53.6 °F) (64-17-5 ethanol)

- **Auto igniting:**

425 °C (797 °F) (64-17-5 ethanol)

- **Decomposition temperature:**

No information available

- **pH-value at 20 °C (68 °F):**

7

- **Viscosity:**

- **Kinematic viscosity:**

No information available

- **Dynamic viscosity at 20 °C (68 °F):**

1.2 mPas

- **Solubility in / Miscibility with:**

- **Water:**

Fully miscible.

- **Partition coefficient (n-octanol/water):**

No information available

- **Vapor pressure at 20 °C (68 °F):**

59 hPa (44.3 mm Hg) (64-17-5 ethanol)

- **Vapor pressure at 50 °C (122 °F):**

280 hPa (210 mm Hg)

- **Density at 20 °C (68 °F):**

0.79 g/cm³ (6.59255 lbs/gal)

- **Relative density:**

No information available

- **Other information**

- **Appearance:**

- **Form:**

Fluid

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· **Important information on protection of health and environment, and on safety:**

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **VOC %:**

· **VOC content:**

0.00 %

· **Molecular weight**

46.1 g/mol

10 Stability and reactivity

· **Reactivity:** No further relevant information available.

· **Chemical stability:**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions:** Vapors may form flammable and explosive mixtures with air.

· **Conditions to avoid:**

Avoid high temperatures, flames, sparks

static discharge

· **Incompatible materials:** Avoid contact with oxidizing agents.

· **Hazardous decomposition products:** In case of fire: see section 5

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:**

64-17-5 ethanol

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

· **on the eye:** Causes serious eye irritation.

· **Additional toxicological information:**

· **Carcinogenic categories**

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

64-17-5	ethanol	1
67-63-0	propan-2-ol	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

12 Ecological information

· **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

· **Persistence and degradability:**

Biodegradability (OECD 301B) for ethanol: 97% in 28d

Easily biodegradable

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- **Bioaccumulative potential:** BCF: 0.66 - 3.2 mg/l
- **Mobility in soil:** No further relevant information available.
- **Results of PBT and vPvB assessment:**
- **PBT:** Concentration of substances classified as PBT: < 0,1%
- **vPvB:** Concentration of substances classified as vPvB: < 0.1%
- **Other adverse effects:**
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water

13 Disposal considerations

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

14 Transport information

- | | |
|---|--|
| · UN-Number | UN1170 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Ethanol solutions |
| · DOT | 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| · ADR | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| · IMDG | ETHANOL SOLUTION |
| · IATA | |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 3 Flammable liquids |
| · Label | 3 |
| · ADR, IMDG, IATA | |
|  | |
| · Class: | 3 Flammable liquids |
| · Label: | 3 |
| · Packing group | II |
| · DOT, ADR, IMDG, IATA | |
| · Environmental hazards | Not applicable. |
| · Special precautions for user | Warning: Flammable liquids |

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· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-D
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· 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 SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

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

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

67-63-0 propan-2-ol

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

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

None of the ingredients is listed.

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

64-17-5 ethanol

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

78-93-3 butanone

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· **TLV (Threshold Limit Value)**

64-17-5 ethanol

A3

67-63-0 propan-2-ol

A4

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

None of the ingredients is listed.

· **GHS label elements**

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

· **Hazard pictograms** GHS02, GHS07

· **Signal word** Danger

· **Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye irritation.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

· **Chemical safety assessment:** A Chemical Safety Assessment has not 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.

· **Department issuing SDS:** Product Safety Department

· **Contact:** +49 6221 13840-35

· **Date of preparation / last revision** 08/28/2024 / -

· **Abbreviations and acronyms:**

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

bw: body weight

UFI: Unique Formula Identifier

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)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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

BEI: Biological Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2

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