

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

1 Identification

- **Product identifier**
- **Trade name:** Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein
- **Article number:** 32471
- **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:** Security Department Phone: +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

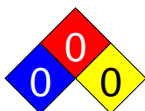
- **Classification of the substance or mixture**



GHS08

Sensitization - Respiratory 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:** GHS08
- **Signal word:** Danger
- **Hazard-determining components of labeling:**
Phosphatase, alkaline
- **Hazard statements:**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapors/spray
[In case of inadequate ventilation] wear respiratory protection.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center/doctor.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0
Fire = 0
Reactivity = 0

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 1)

· HMIS-ratings (scale 0 - 4)

HEALTH	0	Health = *0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment:

· **PBT:** PBT - Assessment not available.

· **vPvB:** vPvB - Assessment not available.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· **Description:** aqueous solution

· Dangerous components:

9001-78-9	Phosphatase, alkaline	40-70%
-----------	-----------------------	--------

· **Additional information:** 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. Consult an ophthalmologist immediately.

· **After swallowing:** Rinse mouth immediately. Drink plenty of water and fresh air. Call a doctor immediately.

· **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:

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

· Special hazards arising from the substance or mixture

Formation of hazardous vapors and gases 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.

· 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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 2)

- **Environmental precautions:** 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:**

56-81-5	glycerol	45 mg/m ³
77-86-1	trometamol	18 mg/m ³
7791-18-6	magnesium chloride, hexahydrate	34 mg/m ³
7646-85-7	zinc chloride	2 mg/m ³

· **PAC-2:**

56-81-5	glycerol	180 mg/m ³
77-86-1	trometamol	190 mg/m ³
7791-18-6	magnesium chloride, hexahydrate	370 mg/m ³
7646-85-7	zinc chloride	800 mg/m ³

· **PAC-3:**

56-81-5	glycerol	1,100 mg/m ³
77-86-1	trometamol	1,200 mg/m ³
7791-18-6	magnesium chloride, hexahydrate	1,600 mg/m ³
7646-85-7	zinc chloride	4,800 mg/m ³

- **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:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Storage at +2 to +8 °C
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Store container tightly closed and dry.
- **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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

56-81-5 glycerol (20-40%)

PEL	Long-term value: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 3)

- **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.
- **Breathing equipment:**
 - Short term filter device:
 - Filter 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.
 - 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 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:**
 - Natural rubber, NR
 - Nitrile rubber, NBR
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information:**
- **Color:** Colorless
- **Odor:** Odorless
- **Odor threshold:** not determined.
- **Melting point/Melting range:** No information available
- **Boiling point/Boiling range:** No information available
- **Flammability (solid, gaseous):** Not applicable.
- **Explosion limits:**
- **Lower:** No information available
- **Upper:** No information available
- **Flash point:** No information available
- **Decomposition temperature:** No information available
- **Viscosity:**
- **Kinematic viscosity:** No information available
- **Dynamic viscosity:** No information available

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 4)

- | | |
|--|---|
| · Solubility in / Miscibility with: | |
| · Water: | Fully miscible. |
| · Partition coefficient (n-octanol/water): | No information available |
| · Vapor pressure: | No information available |
| · Vapor pressure: | |
| · Density: | No information available |
| · Relative density: | No information available |
| · Other information Further physicochemical data are not available. | |
| · Appearance: | |
| · Form: | Solution |
| · Important information on protection of health and environment, and on safety: | |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · VOC %: | |
| · VOC content: | 0.00 % |

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:** No further relevant information available.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **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.
- **Sensitization:** May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Additional toxicological information:**
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

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

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 5)

- **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 (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 | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards | No |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | Void |

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):

7646-85-7 zinc chloride

· TSCA (Toxic Substances Control Act):

9001-78-9 Phosphatase, alkaline

ACTIVE

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 6)

56-81-5	glycerol	ACTIVE
77-86-1	trometamol	ACTIVE
7646-85-7	zinc chloride	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:

None of the ingredients is listed.

· Cancerogenity categories
· EPA (Environmental Protection Agency)

7646-85-7	zinc chloride	D, I, II
-----------	---------------	----------

· TLV (Threshold Limit Value)

None of the ingredients is listed.

· 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 GHS08
· Signal word Danger
· Hazard-determining components of labeling:

Phosphatase, alkaline

· Hazard statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

· Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray

[In case of inadequate ventilation] wear respiratory protection.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

If experiencing respiratory symptoms: Call a poison center/doctor.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· 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 05/22/2025 / -
· 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

PBT: persistent, bioaccumulative, toxic substance (REACH)

vPvB: very persistent, very bioaccumulative substance (REACH)

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

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2025

Reviewed on 05/22/2025

Trade name: Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein

(Contd. of page 7)

*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)**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**Sensitization - Respiratory 1: Respiratory sensitisation – Category 1*

-US-