

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 04/26/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Tris(hydroxymethyl)aminomethane
- **Article number:** 37190
- **CAS Number:**  
77-86-1
- **EC number:**  
201-064-4
- **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)

**SERVA**  
■ serving scientists ■

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The substance is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements:** Void
- **Hazard pictograms:** Void
- **Signal word:** Void
- **Hazard statements:** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



- **Other hazards**
- **Results of PBT and vPvB assessment:**
- **PBT:** PBT - Assessment not available.
- **vPvB:** vPvB - Assessment not available.

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### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**  
77-86-1 trometamol
- **Identification number(s):**
- **EC number:** 201-064-4
- **Description:**
- **Empirical formula:**  $C_4H_{11}NO_3$
- **MW:** 121.1

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **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:**  
Wash out mouth. Drink plenty of water and supply fresh air. Consult doctor if you feel unwell.
- **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:**  
 $CO_2$  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:  
Nitrogen oxides (NOx)  
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.  
Ensure adequate ventilation  
Avoid formation of dust.  
Do not inhale dusts.
- **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.  
Pick up mechanically.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** 18 mg/m<sup>3</sup>
- **PAC-2:** 190 mg/m<sup>3</sup>
- **PAC-3:** 1,200 mg/m<sup>3</sup>

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- **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:** *No special measures required.*
- **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.*
- **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:** *Not required.*
- **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.*
- **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*  
*Chloroprene rubber, CR*
- **Eye protection:** *Safety glasses*
- **Body protection:** *Protective work clothing*

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## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information:

· Color:	White
· Odor:	Characteristic
· Odor threshold:	Not determined.
· Melting point/Melting range:	168-172 °C (334.4-341.6 °F)
· Boiling point/Boiling range:	288 °C (decomposition)
· Flammability (solid, gaseous):	No information available
· Explosion limits:	
· Lower:	No information available
· Upper:	No information available
· Flash point:	No information available
· Decomposition temperature:	No information available
· pH-value:	10-11.5
· Viscosity:	
· Kinematic viscosity:	No information available
· Dynamic viscosity:	No information available
· Solubility in / Miscibility with:	
· Water at 20 °C (68 °F):	800 g/l
· Partition coefficient (n-octanol/water):	No information available
· Vapor pressure:	No information available
· Vapor pressure:	
· Density at 20 °C (68 °F):	1.35 g/cm <sup>3</sup> (11.26575 lbs/gal)
· Relative density:	No information available

### · Other information

#### · Appearance:

· Form: Crystalline

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

· Danger of explosion: The product is not explosive, but the formation of explosive dust/air mixtures is possible.

· Molecular weight: 121.1 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:

No further relevant information available.

Reacts with bases

· Conditions to avoid: High temperatures

· Incompatible materials:

Avoid contact with:

Oxidizing agents

Bases

· 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.

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

Oral	LD50	>5,000 mg/kg (rat)
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- **on the skin:** Based on available data, the classification criteria are not met.
- **on the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** Based on available data, the classification criteria are not met.
- **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.
- **Specific target organ toxicity - single exposure:**  
Based on available data, the classification criteria are not met.
- **Specific target organ toxicity - repeated exposure:**  
Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

## 12 Ecological information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability:** Biodegradability: 89% in 28 d (hydrochloride).
- **Other information:** The product is readily biodegradable.
- **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:**  
Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 1 (Assessment by list): slightly hazardous for water

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with official regulations.
- **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

- |                                    |      |
|------------------------------------|------|
| · <b>UN-Number</b>                 | Void |
| · <b>DOT, ADR, ADN, IMDG, IATA</b> | Void |
| · <b>UN proper shipping name</b>   | Void |
| · <b>DOT, ADR, ADN, IMDG, IATA</b> | Void |

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· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, ADN, IMDG, IATA</b>	
· <b>Class</b>	Void
· <b>Packing group</b>	
· <b>DOT, ADR, IMDG, IATA</b>	Void
· <b>Environmental hazards</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Not applicable.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	Not dangerous according to the above specifications.
· <b>UN "Model Regulation":</b>	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):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65** Substance is not listed.
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
  
- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **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** 04/26/2024
- **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*  
*bw: body weight*

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*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*

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

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (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*

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