

Safety Data Sheet

acc. to OSHA HCS

Printing date 04/30/2020

Reviewed on 04/30/2020

1 Identification

- **Product identifier**
- **Trade name:** Tris(hydroxymethyl)aminomethane
- **Article number:** 37180
- **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:**
Medical Emergency Information in case of poisoning:
Poison Information Center Mainz - Phone: +49 (0) 6131 19240
(advisory service in German or English language)



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:**
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. Consult doctor if you feel unwell.
- **Information for doctor:**
- **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**
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 respiratory protective device.

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 item 13.
Pick up mechanically.
- **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.

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- **Protective Action Criteria for Chemicals**
- **PAC-1:** 18 mg/m³
- **PAC-2:** 190 mg/m³
- **PAC-3:** 1,200 mg/m³

7 Handling and storage

- **Handling:**
- **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:** *Keep receptacle tightly sealed and store in dry conditions.*
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

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

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· **Body protection:** *Protective work clothing*

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Crystalline
Color:	White
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** 10-11.5

· **Change in condition**

Melting point/Melting range:	168-172 °C (334.4-277.6 °F)
Boiling point/Boiling range:	288 °C (550.4 °F)

· **Flash point:** *no information available*

· **Flammability (solid, gaseous):** *Product is not flammable.*

· **Decomposition temperature:** *Not determined.*

· **Auto igniting:** *Not determined.*

· **Danger of explosion:** *Product does not present an explosion hazard.*

· **Explosion limits:**

Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>

· **Vapor pressure at 20 °C (68 °F):** 0.0267 hPa (0 mm Hg)

· **Density at 20 °C (68 °F):** 1.35 g/cm³ (11.26575 lbs/gal)

Bulk density:	840 kg/m ³
Relative density	<i>Not determined.</i>
Vapor density	<i>Not applicable.</i>
Evaporation rate	<i>Not applicable.</i>

· **Solubility in / Miscibility with**

Water at 20 °C (68 °F): 400 g/l

· **Partition coefficient (n-octanol/water):** *Not determined.*

· **Viscosity:**

Dynamic:	<i>Not applicable.</i>
Kinematic:	<i>Not applicable.</i>

· **Other information** *No further relevant information available.*

10 Stability and reactivity

· **Reactivity** *No further relevant informations available*

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

· **Possibility of hazardous reactions**

No further relevant informations available.

Reacts with bases

· **Conditions to avoid high temperatures**

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- **Incompatible materials:**
Avoid contact with:
Oxidizers
Bases
- **Hazardous decomposition products:** In case of fire: See Section 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

Oral	LD50	5,900 mg/kg (rat)
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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
The substance is not subject to classification.
- **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:**
NOEC (fish): > 4 mg/l
NOEC /72h, fresh water algae): 100 mg/l
EC50 (aquatic microorganisms/ activated sludge, OECD 209): > 1000 mg/l
- **Persistence and degradability** Biodegradability: 89 % in 28 d (hydrochloride)
- **Other information:** The product is readily biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No relevant bioaccumulation is expected because of $\log Pow = -2,31$.
- **Mobility in soil** No further relevant information available.
- **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
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Disposal must be made according to official regulations.

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- **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.*

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: | |
| · 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**
- **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 established by ACGIH)** *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.*

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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** 04/30/2020 / 5

· **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

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

· *** Data compared to the previous version altered.**