

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 25.01.2012

Version number 1

Revision: 01.12.2011

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

### 1.1. Product identifier

- Trade name: Tris(hydroxymethyl)aminomethane
- Synonyma Tris

**SERVA**  
Electrophoresis

- Article number: 37180

- CAS Number:  
77-86-1

- EC number:  
201-064-4

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

- Application of the substance / the preparation *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:** +49 6131 19240 (university hospital Mainz)

## 2 Hazards identification

### 2.1. Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Xi; Irritant

R36/38: Irritating to eyes and skin.

- **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

### 2.2. Label elements

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS07

- **Signal word** Warning

- **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

- **Precautionary statements**

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

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

### **3 Composition/information on ingredients**

- **3.1. 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**

- **4.1. Description of first aid measures**
- **After inhalation** Supply fresh air and to be sure call for a doctor.
- **After skin contact** Immediately rinse with water.
- **After eye contact**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing** Drink copious amounts of water and provide fresh air. Call for doctor immediately.
- **Information for doctor**
- **4.2. Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **4.3. Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### **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**  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide and carbon dioxide
- **5.3. Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### **6 Accidental release measures**

- **6.1. Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **6.2. Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3. Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4. Reference to other sections**  
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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## 7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**
  - Ensure good ventilation/exhaustion at the workplace.
  - Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2. Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
  - Keep receptacle tightly sealed.
  - Store in dry conditions.
- **7.3. 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.
- **8.1. 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.
- **8.2. Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - Short term filter device:
  - Filter P2.
- **Protection of hands:**
  - Protective gloves.
  - 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

### · 9.1. Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form: Crystalline powder

Colour: White

· Odour: Characteristic

· pH-value (50 g/l) at 20°C: 10.0-11.5

#### · Change in condition

Melting point/Melting range: 170°C

Boiling point/Boiling range: undetermined

· Flash point: Not applicable

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

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

· Density at 20°C: 1.35 g/cm<sup>3</sup>

· Bulk density at 20°C: ca. 840 kg/m<sup>3</sup>

#### · Solubility in / Miscibility with

Water at 20°C: 800 g/l

· Segregation coefficient (n-octanol/water): -1.56 log POW (calc.)

· 9.2. Other information No further relevant information available.

## 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 and stored according to specifications.

· 10.3. Possibility of hazardous reactions No further relevant informations available.

· 10.4. Conditions to avoid No further relevant information available.

· 10.5. Incompatible materials: Avoid contact with: strong oxidizers, strong acids, strong alcali

· 10.6. Hazardous decomposition products:

Nitrogen oxides (NO<sub>x</sub>)

Carbon monoxide and carbon dioxide

## 11 Toxicological information

### · 11.1. Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

Oral	LD50	5900 mg/kg (rat)
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· Primary irritant effect:

· on the skin: Irritant to skin and mucous membranes.

· on the eye: Irritating effect.

· Sensitization: No sensitizing effects known.

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### 12 Ecological information

- **12.1. Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2. Persistence and degradability** No further relevant information available.
- **Other information:** The product is easily biodegradable.
- **Behaviour in environmental systems:**
- **12.3. Bioaccumulative potential** No relevant bioaccumulation is expected because of  $\log Pow < 1$ .
- **12.4. Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water.  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **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.

### 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.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |  |  |
|--|--|
| · <b>14.1. UN-Number</b>   |  |
| · <b>ADR, ADN, IMDG, IATA</b>  | Void   |
| · <b>14.2. UN proper shipping name</b>   |  |
| · <b>ADR, ADN, IMDG, IATA</b>  | Void   |
| · <b>14.3. Transport hazard class(es)</b>  |  |
| · <b>ADR, ADN, IMDG, IATA</b>  |  |
| · <b>Class</b>   | Void   |
| · <b>14.4. Packing group</b>   |  |
| · <b>ADR, IMDG, IATA</b>   | Void   |
| · <b>14.5. Environmental hazards:</b>  |  |
| · <b>Marine pollutant:</b>   | No   |
| · <b>14.6. Special precautions for user</b>  | Not applicable.                                      |
| · <b>14.7. 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>  | -  |

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**15 Regulatory information**

- **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Water hazard class: Water hazard class 2 (Assessment by list): hazardous for water.**
- **15.2. 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 MSDS: Product safety department**

· **Contact: +49 6221 13840-35**

· **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*

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*ICAO: International Civil Aviation Organization*

*GHS: Globally Harmonized System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

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

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

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

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