

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

Printing date 01.12.2011

Version number 1

Revision: 07.08.2009

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

- **1.1. Product identifier**
- **Trade name:** Tris(hydroxymethyl)aminomethane-hydrochloride
- **Synonyma** TRIS-HCl
- **Article number:** 37192
- **CAS Number:**
1185-53-1
- **EC number:**
214-684-5
- **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)

SERVA
Electrophoresis

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.

STOT SE 3 H335 May cause respiratory irritation.

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



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system 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.

H335 May cause respiratory irritation.

- **Precautionary statements**

P304+P340 **IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

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- 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.*

- **2.3. Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **3.1. Chemical characterization: Substances**
- **CAS No. Description:**
1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride
- **Identification number(s):**
- **EC number:** 214-684-5
- **Description:**
- **Empirical formula:** $C_4H_{11}NO_3 \cdot HCl$
- **MW:** 157,6

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**
Nausea
Cyanosis
Unconsciousness
Cramp
- **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**
CO₂, 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_x)
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.

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- 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.
- See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **7.1. Precautions for safe handling**
- Prevent formation of dust.
- Ensure good ventilation/exhaustion at the workplace.
- **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

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- Chloroprene rubber, CR
- **Eye protection:** Safety glasses
- **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:** Odourless

· **pH-value (100 g/l) at 20°C:** 3.5 - 5.0

· Change in condition

- **Melting point/Melting range:** 149°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:** 0.55 g/cm³

· Solubility in / Miscibility with

· **Water:** Soluble

· **9.2. Other information** There are no more data available.

10 Stability and reactivity

· 10.1. Reactivity

· 10.2. Chemical stability

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

· 10.3. Possibility of hazardous reactions

Reacts with oxidizing agents

Reacts with bases

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

· **10.5. Incompatible materials:** No further relevant information available.

· 10.6. Hazardous decomposition products:

Nitrogen oxides (NO_x)

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

· **Acquatic toxicity:**

EC50/48h	> 100 mg/l (Daphnia magna)
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· **12.2. Persistence and degradability** No further relevant information available.

· **Other information:**

The product is easily biodegradable.

89 % in 28 d

· **Behaviour in environmental systems:**

· **12.3. Bioaccumulative potential** No further relevant information available.

· **12.4. Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **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

· 14.1. UN-Number

· **ADR, ADN, IMDG, IATA** Void

· 14.2. UN proper shipping name

· **ADR, ADN, IMDG, IATA** Void

· 14.3. Transport hazard class(es)

· **ADR, ADN, IMDG, IATA**

· **Class** Void

· 14.4. Packing group

· **ADR, IMDG, IATA** Void

· 14.5. Environmental hazards:

Not applicable.

· **Marine pollutant:**

No

· 14.6. Special precautions for user

Not applicable.

· 14.7. 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.

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· UN "Model Regulation": -

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 1 (Self-assessment): slightly 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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