1. Identification

Product Name
Tris(hydroxymethyl)aminomethane hydrochloride

Cat No. :
BP153-1; BP153-10; BP153-25; BP153-5; BP153-500; XXBP1535KG;
NC1571038

CAS-No
1185-53-1

Synonyms
Tromethane; 2-Amino-2-(hydroxymethyl)-1,3-propanediol, hydrochloride; TRIS;
Tromethamine

Recommended Use
Laboratory chemicals.

Uses advised against
Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA:
800-424-9300
CHEMTREC®, Outside the USA:
001-703-527-3887

2. Hazard(s) identification

Classification

Based on available data, the classification criteria are not met

Label Elements

Hazard Statements

Precautionary Statements
Hazard(s) not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients
Tris(hydroxymethyl)aminomethane hydrochloride

Revision Date 23-Dec-2019

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>1185-53-1</td>
<td>99</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

**General Advice**  
If symptoms persist, call a physician.

**Eye Contact**  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**  
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Inhalation**  
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Ingestion**  
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects**  
None reasonably foreseeable.

**Notes to Physician**  
Treat symptomatically

### 5. Fire-fighting measures

**Suitable Extinguishing Media**  

**Unsuitable Extinguishing Media**  
No information available

**Flash Point**  
No information available

**Method**  
No information available

**Autoignition Temperature**  
No data available

**Explosion Limits**  
Upper  
No data available  
Lower  
No data available

**Oxidizing Properties**  
Not oxidizing (according to A17 test)

**Sensitivity to Mechanical Impact**  
No information available

**Sensitivity to Static Discharge**  
No information available

**Specific Hazards Arising from the Chemical**  
Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**  
Hydrogen chloride gas  
Nitrogen oxides (NOx)  
Carbon monoxide (CO)  
Carbon dioxide (CO₂)

**Protective Equipment and Precautions for Firefighters**  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures
Tris(hydroxymethyl)aminomethane hydrochloride

Revision Date: 23-Dec-2019

Personal Precautions
Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling
Avoid ingestion and inhalation. Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Storage
Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed. Store under an inert atmosphere. Keep container tightly closed in a dry and well-ventilated place. Protect from moisture.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Characteristic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>3.5-5.0 @ 25°C 1 % aq.sol (25°C)</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>150 - 151 °C / 302 - 303.8 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>225 °C / 437 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1.28 g/cm3</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Reactive Hazard
None known, based on information available

Stability
Hygroscopic.

Conditions to Avoid
Incompatible products. Exposure to moist air or water. Avoid dust formation.

Incompatible Materials
Bases, Strong oxidizing agents

Hazardous Decomposition Products
Hydrogen chloride gas, Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization
No information available.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information
No acute toxicity information is available for this product

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>OECD 425 (Rat) LD50 &gt; 5000 mg/kg bw</td>
<td>OECD 402 (Rat) LD50 &gt; 5000 mg/kg bw</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
Irritating to eyes, respiratory system and skin

Sensitization
No information available

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>1185-53-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
None known

STOT - repeated exposure
None known

Aspiration hazard
No information available
Symptoms / effects, both acute and delayed
No information available

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>Not listed</td>
<td>Not listed</td>
<td>OECD 209 EC50 &gt; 1000 mg/L (3h)</td>
<td>Daphnia Magna EC50 &gt;100 mg/L (48h)</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Soluble in water. Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation
No information available.

Mobility
Will likely be mobile in the environment due to its water solubility.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>-3.6</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>1185-53-1</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export
Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride</td>
<td>1185-53-1</td>
<td>X</td>
<td>-</td>
<td>214-684-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-34819</td>
<td></td>
</tr>
</tbody>
</table>
U.S. Federal Regulations

SARA 313                      Not applicable
SARA 311/312 Hazard Categories See section 2 for more information
CWA (Clean Water Act)         Not applicable
Clean Air Act                  Not applicable
OSHA - Occupational Safety and Health Administration Not applicable
CERCLA                        Not applicable
California Proposition 65    This product does not contain any Proposition 65 chemicals
U.S. State Right-to-Know Regulations Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ):     N
DOT Marine Pollutant          N
DOT Severe Marine Pollutant   N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade                 No information available

16. Other information

Prepared By                   Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date                  26-Sep-2009
Revision Date                  23-Dec-2019
Print Date                     23-Dec-2019
Revision Summary               SDS sections updated. 2. 9. 11. 12. 16.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the
date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,
transportation, disposal and release and is not to be considered a warranty or quality specification. The information
relates only to the specific material designated and may not be valid for such material used in combination with any other
materials or in any process, unless specified in the text

End of SDS