1. Identification

Product Name Tris(hydroxymethyl)aminomethane

Cat No. : BP152-1, BP152-10, BP152-5, BP152-25, BP152-25LC, BP152-500

CAS-No 77-86-1

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

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


This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements None required

Hazards not otherwise classified (HNOC) None identified

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tris (hydroxymethyl) aminomethane</td>
<td>77-86-1</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

#### 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. Get medical attention immediately if symptoms occur.

#### Inhalation
Remove to fresh air. Get medical attention immediately 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
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

#### Unsuitable Extinguishing Media
No information available

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Method -</th>
<th>Autoignition Temperature</th>
<th>Explosion Limits</th>
<th>Sensitivity to Mechanical Impact</th>
<th>Sensitivity to Static Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No data available</td>
<td>No data available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

#### Hazardous Combustion Products
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>1</td>
<td>1</td>
<td>1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

#### Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. 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. Avoid dust formation.
7. Handling and storage

Handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. 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.

9. Physical and chemical properties

Physical State
Powder Solid

Appearance
White

Odor
Slight

Odor Threshold
No information available

pH
10-11.5 1% aq. sol

Melting Point/Range
168.5 °C / 335.3 °F

Boiling Point/Range
219 - 220 °C / 426.2 - 428 °F @ 10 mmHg

Flash Point
No information available

Evaporation Rate
Not applicable

Flammability (solid,gas)
No information available

Flammability or explosive limits
Upper
No data available

Lower
No data available

Vapor Pressure
No information available

Vapor Density
Not applicable

Specific Gravity
No information available

Solubility
550 g/L (25°C)

Partition coefficient; n-octanol/water
No data available

Autoignition Temperature
No information available

Decomposition Temperature
No information available

Viscosity
Not applicable

Molecular Formula
C4 H11 N O3

Molecular Weight
121.14

10. Stability and reactivity

Reactive Hazard
None known, based on information available
Stability
Stable. Hygroscopic.

Conditions to Avoid
Exposure to moist air or water.

Incompatible Materials
Bases, Strong oxidizing agents, Metals, copper

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

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity
Product Information

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>Tris (hydroxymethyl) aminomethane</td>
<td>LD50 = 5900 mg/kg ( Rat )</td>
<td>Not listed</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
No information available

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>Tris (hydroxymethyl) aminomethane</td>
<td>77-86-1</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.

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

Bioaccumulation/ Accumulation
No information available.
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>Tris (hydroxymethyl) aminomethane</td>
<td>77-86-1</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>Tris (hydroxymethyl) aminomethane</td>
<td>77-86-1</td>
<td>X</td>
<td>-</td>
<td>201-064-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>KE-01403</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
Tris(hydroxymethyl)aminomethane

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  15-Dec-2011
Revision Date  18-Jan-2018
Print Date  18-Jan-2018
Revision Summary  This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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