



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

# MATERIAL SAFETY DATA SHEETS

## SECTION I

### PRODUCT AND COMPANY IDENTIFICATION

**Product: Tromethamine**  
**This MSDS is valid for all grades and catalog #'s**

Synonyms: Tris(hydroxymethyl)aminomethane;  
Tris(hydroxymethyl)methylamine; 2-Amino-2-(hydroxymethyl)-1,3-propane diol; 2-Amino-2-(hydroxymethyl)propane-1,3-diol; 2-Amino-2-methylol-1,3-propanediol; Aminotrimethylolmethane; Aminotris(hydroxymethyl)methane; Methyl, 1,1,1-tris(hydroxymethyl)-; Tris (hydroxymethyl)methanamine  
Formula: C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub>

Manufacturer: PHARMCO-AAPER  
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Brookfield, Connecticut 06804, USA  
Phone (203) 740-3471  
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CHEMTREC 1-800-424-9300

## SECTION II

### COMPOSITION /INFORMATION ON INGREDIENTS

% by weight	Material	CAS #	TLV/PEL	LC50/LD50
100	Tromethamine, Biotech Grade	77-86-1	Not available	ORAL (LD50): Acute: 5900 mg/kg [Rat].

## SECTION III

### HAZARDS IDENTIFICATION

**Potential Acute Health Effects:** Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to kidneys, liver, skin. Repeated or prolonged exposure to the substance can produce target

organs damage.

## SECTION IV

### FIRST AID

Obtain medical attention for all cases of over-exposure.

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

**Skin Contact:** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Hazardous Skin Contact:** Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Hazardous Inhalation:** Not available.

**Ingestion:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Hazardous Ingestion:** Not available.

## SECTION V

### FIRE FIGHTING MEASURES

**Fire:**

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition temperature: Not available.

Flash point: CLOSED CUP: Higher than 93.3°C (200°F).

Flammable limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...).

**Fire Hazards:** Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

**Explosion Hazards:** Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

**Fire Extinguishing Media:** SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Information:** As with most organic solids, fire is possible at elevated temperatures. Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

## SECTION VI

### SPILL/ACCIDENTAL RELEASE MEASURES

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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## SECTION VII

### HANDLING AND STORAGE

**Precautions:** Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

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## SECTION VIII

### EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

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## SECTION IX

### PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Appearance:** Solid. (Crystalline powder.)

**Molecular Weight:** 121.14 g/mole

**Odor:** Characteristic. (Slight.)

**Taste:** Faint; sweet; soapy

**Color:** White.

**pH (1% Solution in Water):** Not available.

**Boiling Point:** 219.5°C (427.1°F)

**Melting Point:** 171°C (339.8°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Not available.

**Vapor Pressure (mm Hg):** Not applicable

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**Vapor Density (Air=1):** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** Not available.

**Ionicity (in water):** Not available.

**Dispersion Properties:** See solubility in water, methanol, acetone.

**Solubility:** Easily soluble in cold water, hot water. Partially soluble in methanol, acetone. Solubility in water: 550 mg/ml. Solubility in Ethylene Glycol: 79.1 mg/ml. Solubility in Methanol: 26 mg/ml. Solubility in Acetone: 14.6 mg/ml. Solubility in Ethyl Acetate: 0.5 mg/ml. Solubility in Olive oil: 0.4 mg/ml. Solubility in Cyclohexane: 0.1 mg/ml. Solubility in Chloroform: 0.05 mg/ml. Solubility in Carbon Tetrachloride: less than 0.05 mg/ml

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## SECTION X

### STABILITY/REACTIVITY INFORMATION

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Heat, dust generation, and incompatible materials.

**Incompatibilities:** Reactive with oxidizing agents, metals, acids, alkalis.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Information:** Incompatible with metals such as copper, brass, and aluminum. Incompatible with aldehydes. Hygroscopic; keep container tightly closed.

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## SECTION XI

### TOXICOLOGICAL INFORMATION

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 5900 mg/kg [Rat].

**Chronic Effects on Humans:** May cause damage to the following organs: kidneys, liver, skin

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of ingestion.

**Special Information on Toxicity to Animals:** Not available.

**Special Information on Chronic Effects/Toxicity on Humans:** Acute Potential Health Effects: Skin: Causes skin irritation Eyes: Causes eye irritation. Inhalation: Causes respiratory tract irritation. Symptoms may include coughing, shortness of breath. Ingestion: Mild alkali. Causes irritation of the digestive/gastrointestinal tract and reddening of the mucous membranes of the, mouth, esophagus. Symptoms may include nausea, vomiting, diarrhea. May affect behavior/central nervous system(somnolence, muscle weakness, coma), liver (liver damage), kidneys (kidney damage). May cause alkalosis, hyperkalemia, hypoglycemia, and may depress respiratory center. Chronic Potential Health Effects: Skin: Prolonged or repeated contact with skin may cause dermatitis.

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## SECTION XII ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Information on Products of Biodegradation:** Not available.

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## SECTION XIII DISPOSAL CONSIDERATIONS

**Waste Disposal:** Recycle to process, if possible. Consult your local or regional (State) authorities (waste regulators) to ensure complete and accurate classification. Waste generators must determine whether a discarded chemical is classified as a hazardous waste. Dispose of in accordance with Federal, State, and Local regulations.

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## SECTION XIV TRANSPORTATION INFORMATION

**DOT Classification:** DOT Not a DOT controlled material (United States).

**UN:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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## SECTION XV REGULATORY INFORMATION

Federal and State Regulations: Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material. Components present in this product at a level which could require reporting under the statute are: **NONE**

Pennsylvania Right-To-Know, Hazardous substance List, Hazardous Substances and Special hazardous Substances on the list must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Massachusetts Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are: **NONE**

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal or greater than the reportable quantities (RQs) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are: **NONE**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: **No products were found.**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: **No products were found.**

### Other Classifications:

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): R36/38- Irritating to eyes and skin.

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**References:** Not available.

**Other Special Considerations:** Not available.

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The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.