

## SAFETY DATA SHEET

Preparation Date: 2/20/2014

Revision Date: 1/19/2018

Revision Number: G2

### 1. IDENTIFICATION

**Product identifier**

**Product code:** TR149  
**Product Name:** TROMETHAMINE, USP

**Other means of identification**

**Synonyms:** Tris(hydroxymethyl)aminomethane  
 Tris(hydroxymethyl)methylamine  
 2-Amino-2-(hydroxymethyl)-1,3-propanediol  
 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  
 1,3-Propanediol, 2-amino-2(hydroxymethyl)-  
 Spectris  
 Tris Buffer  
 Tris-amino  
 Tromethane  
 Tromethamine  
 Trometamol  
 Trisamine  
 Trisaminol  
 Trismat

**CAS #:** 77-86-1  
**RTECS #** TY2900000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** In synthesis of surface-active agents, vulcanization accelerators; in pharmaceuticals; titrimetric standard; as an emulsifying agent for cosmetic creams and lotions; in mineral oil and paraffin wax emulsions; in leather dressings; emulsifying agent for textile specialities; in polishes, cleaning compounds.

**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

**Product code:** TR149

**Product name:** TROMETHAMINE,  
 USP

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

#### **Label elements**

##### **Warning**

##### **Hazard statements**

Causes skin irritation

Causes serious eye irritation



##### **Hazards not otherwise classified (HNOC)**

Not Applicable

##### **Other hazards**

Not available

##### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

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

##### **Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Components</b>	<b>CAS-No.</b>	<b>Weight %</b>
Tromethamine	77-86-1	100

### **4. FIRST AID MEASURES**

#### **First aid measures**

##### **General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

##### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

**Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.

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

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

- Causes skin irritation
- Moderately irritating to the skin
- Causes serious eye irritation
- Moderately irritating to the eyes
- Coughing
- Dyspnea (Shortness of breath and difficulty breathing)
- Respiratory depression
- Ingestion may cause nausea, vomiting, and diarrhea
- Weakness
- May cause hypoglycemia
- Alkalosis
- Hyperkalemia
- Increase in urine volume

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon Monoxide, Carbon Dioxide. Nitrogen Oxides.

**Specific hazards:** May be combustible at high temperatures.

**Special Protective Actions for Firefighters**

**Specific Methods:** No information available.

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

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe vapors/dust. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### **Technical Measures/Storage Conditions:**

Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

#### **Incompatible Materials:**

Oxidizing agents  
Acids  
Bases  
Metals  
Aluminum  
Zinc  
Copper  
Copper alloys  
Aldehydes

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Tromethamine	77-86-1	None	None	None	None

## Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Tromethamine	77-86-1	None	None	None	None

## Australia and Mexico

Components	CAS-No.	Australia	Mexico
Tromethamine	77-86-1	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. 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.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

##### Eye protection:

Safety glasses with side-shields or Goggles

##### Skin and body protection:

Long sleeved clothing  
Chemical resistant apron  
Gloves

##### Respiratory protection:

Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

##### Hygiene measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

##### Physical state:

Solid

##### Appearance:

Crystalline. Crystalline powder.  
Crystals.

##### Color:

White.

##### Odor:

Odorless.

##### Taste

Faint. Sweet. Soapy.

##### Formula:

C4-H11-N-O3

##### Molecular/Formula weight:

121.14

##### Flammability:

No information available

##### Flashpoint (°C/°F):

No information available.

##### Flash Point Tested according to:

Not available

##### Autoignition Temperature (°C/°F):

No information available

##### Lower Explosion Limit (%):

No information available

##### Upper Explosion Limit (%):

No information available

##### Melting point/range(°C/°F):

168-172 °C/334.4-341.6 °F

##### Decomposition temperature(°C/°F):

No information available

**Boiling point/range(°C/°F):**

No information available

**Bulk density:**

No information available

**Density (g/cm3):**

No information available

**Specific gravity:**

No information available

**pH:**

No information available

**Vapor pressure @ 20°C (kPa):**

No information available

**Evaporation rate:**

No information available

**Vapor density:**

No information available

**VOC content (g/L):**

No information available

**Odor threshold (ppm):**

No information available

**Partition coefficient (n-octanol/water):**

-1.56 to -2.31

**Viscosity:**

No information available

**Miscibility:**

No information available

**Solubility:**

Freely soluble in water

Solubility in Water: 5500-8000 g/l @20

°C

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

**10. STABILITY AND REACTIVITY****Reactivity**

Reactive with oxidizing agents

Reacts with strong bases

Reactive with metals

**Chemical stability****Stability:**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur**Conditions to avoid:**

Heat. Avoid dust formation. Incompatible materials.

**Incompatible Materials:**

Oxidizing agents

Acids

Bases

Metals

Aluminum

Zinc

Copper

Copper alloys

Aldehydes

**Hazardous decomposition products:**

Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx).

**Other Information****Corrosivity:**

No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**

Ingestion. Inhalation.

### Acute Toxicity

#### Component Information

Tromethamine	
CAS-No.	77-86-1

**LD50/oral/rat** = = 5900 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 5500 mg/kg

**LD50/dermal/rabbit** = No information available

**LD50/dermal/rat** = = 5900 mg/kg Oral LD50

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = No information available

#### Product Information

**LD50/oral/rat** =

**VALUE- Acute Tox Oral** = 5900 mg/kg

**LD50/oral/mouse** =

**Value - Acute Tox Oral** = 5500 mg/kg

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**

**VALUE-Vapor** = No information available

**VALUE-Gas** = No information available

**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**

**VALUE-Vapor** = No information available

**VALUE - Gas** = No information available

**VALUE - Dust/Mist** = No information available

### Symptoms

**Skin Contact:** Causes skin irritation. Moderately irritating to the skin.

**Eye Contact:** Causes serious eye irritation. Moderately irritating to the eyes.

**Inhalation** May cause irritation of respiratory tract. Symptoms may include coughing and shortness of breath.

**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May

affect respiration (dyspnea, respiratory depression). May affect behavior/central nervous system (somnia). May cause muscle weakness. May affect behavior/central nervous system (coma). May cause alkalosis. May cause hyperkalemia. May cause hypoglycemia (low blood sugar). May affect urinary system (kidneys). May cause increase in urine volume. May affect liver.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** No information available.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Tromethamine	77-86-1	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

**13. DISPOSAL CONSIDERATIONS**



## Disposal Methods

### **Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

### **Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Tromethamine	77-86-1	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Class:** No information available  
**Packing group:** No information available  
**Emergency Response Guide Number:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions:** No Information available  
**Symbol(s):** No information available  
**Description:** No information available

### TDG (Canada)

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant:** No Information available  
**Description:** No information available

### ADR

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Packing Group:** No information available  
**Subsidiary Risk:** No information available

### IMO / IMDG

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**Marine Pollutant:** No information available

### RID

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available

**Packing Group:** No information available

**ICAO**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available

**IATA**

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** No information available  
**ERG Code:** No information available  
**Special Provisions** No information available

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Tromethamine	77-86-1	PresentACTIVE	Present KE-01403	Present	Present (2)-318	Present	Present	Present 201-064-4

**U.S. Regulations**

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Tromethamine	77-86-1	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Tromethamine	77-86-1	None	None	None	None	None

**U.S. TSCA**

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Tromethamine	77-86-1	Not Applicable	Not Applicable

**Canada**

## WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component  
Tromethamine  
77-86-1 ( 100 )

WHMIS 2015 Hazard Classification  
Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

## WHMIS 1988 Hazard Class

D2B Toxic materials

**Components**  
Tromethamine

WHMIS 1988  
D2B

## Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

## Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Tromethamine	77-86-1	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Tromethamine	77-86-1	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Tromethamine	77-86-1	Not listed

## EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Tromethamine	77-86-1	No information

EU - CLP (1272/2008)

## R-phrases

R36/38 - Irritating to eyes and skin.

## S-phrases

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 - Wear suitable gloves.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Tromethamine	77-86-1		No information	

**The product is classified in accordance with Annex VI to Directive 67/548/EEC**

## Indication of danger:

Xi - Irritant.

Product code: TR149

Product name: TROMETHAMINE,  
USP

11 / 12

Xi



## 16. OTHER INFORMATION

**Preparation Date:** 2/20/2014  
**Revision Date:** 1/19/2018  
**Prepared by:** Sonia Owen

**Disclaimer:** All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**