

Section 1: Identification	
Common Name/Trade Name	TROMETHAMINE USP
Supplier Information	Letco Medical, LLC 1316 Commerce Drive NW Decatur, AL 35601 1 (800) 239-5288 +1 (734) 843-4693
Product Synonym(s)	trometamol
Relevant Use(s) of Product	Manufacture or Compounding of Substances

Section 2: Hazards Identification	
Classification of Substance or Mixture	Not a hazardous substance or mixture.
Signal Word	None
Hazard Statement(s)	N/A
Pictogram(s)	N/A
Precautionary Statement(s)	N/A
Hazards Not Otherwise Classified	No data available
Ingredient(s) with Unknown Toxicity	No data available

Section 3: Composition/Information on Ingredients	
Chemical Name	Tris (hydroxymethyl)-aminomethane
Common Name	Tromethamine
CAS Number	77-86-1
Impurities and/or Stabilizing Additives	No data available

Section 4: First Aid Measures	
General Advice	Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
If Inhaled	Move person into fresh air; If effects occur, consult a physician.
In Case of Skin Contact	Wash off with plenty of water.
In Case of Eye Contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably and ophthalmologist.
If Swallowed	No emergency medical treatment necessary.
Most Important Symptoms and Effects	Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (see General Advice: notes to physician), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Section 5: Fire Fighting Measures	
Suitable Extinguishing Media	Water. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers.
Special Hazards Arising From the Substance/Mixture	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate.
Special PPE and/or Precautions for Firefighters	Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Move container from fire area if this is possible without hazard. Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Methods and Materials Used for Containment	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Cleanup Procedures	Contain spilled material if possible. Use care to minimize generation of airborne dust. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

Section 7: Handling and Storage

Precautions for Safe Handling	Avoid generating and breathing dust. Keep container closed. Good housekeeping and controlling of dusts are necessary for safe handling of product. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.
Conditions for Safe Storage	Store in a dry place. Do not store in: Zinc. Galvanized containers. Aluminum. Copper. Copper alloys.

Section 8: Exposure Controls/Personal Protection

Components with Workplace Control Parameters	Exposure limits: None established.
Appropriate Engineering Controls	Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.
PPE - Eye/Face Protection	Use safety glasses (with side shields).
PPE - Skin Protection	Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
PPE - Body Protection	Wear clean, body-covering clothing.
PPE - Respiratory Protection	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In dusty or misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Particulate filter.

Section 9: Physical and Chemical Properties

Appearance	White Crystals
Upper/Lower Flammability or Explosive Limits	No test data available
Odor	Odorless
Vapor Pressure	Literature Nil
Odor Threshold	No test data available
Vapor Density	No data available
pH	10.4 Literature 1% aqueous solution.
Relative Density	No test data available
Melting Point/Freezing Point	171-172°C (340-342°F) Literature
Solubility	Water solubility: Literature Soluble
Initial Boiling Point and Boiling Range	Not applicable
Flash Point	closed cup Not applicable
Evaporation Rate	No test data available
Flammability (Solid, Gas)	(solid, gas): No
Partition Coefficient	log Pow: -2.31 Measured
Auto-Ignition Temperature	No test data available
Decomposition Temperature	No test data available
Viscosity	Not applicable

Section 10: Stability and Reactivity

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical Stability	Stable under recommended storage conditions. See Storage, Section 7. Hygroscopic.
Possibility of Hazardous Reactions	Polymerization will not occur.
Conditions to Avoid	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid moisture.
Incompatible Materials	Avoid contact with: Strong acids. Strong oxidizers. Avoid contact with metals such as: Aluminum. Zinc. Copper. Copper alloys. Galvanized metals. Avoid unintended contact with: Halogenated hydrocarbons.
Hazardous Decomposition Products	Decomposition products depend upon temperature, air supply and the presence of other materials.

Section 11: Toxicological Information

Acute Toxicity - LD50 Oral	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. LD50 Oral - rat - > 5,000 mg/kg. No deaths occurred at this concentration.
Acute Toxicity - Inhalation	Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract (nose and throat). LC50 has not been determined.
Acute Toxicity - Dermal	Prolonged skin contact is unlikely to result in absorption of harmful amounts. LD50 Dermal - rat - male and female > 5,000 mg/kg OECD 402 or equivalent. No deaths occurred at this concentration.
Acute Toxicity - Eye	No data available.
Skin Corrosion/Irritation	Brief contact is essentially nonirritating to skin. Prolonged contact is essentially nonirritating to skin.
Serious Eye Damage/Irritation	May cause slight temporary eye irritation. Corneal injury is unlikely.
Respiratory or Skin Sensitization	For skin sensitization: Did not cause allergic skin reactions when tested in guinea pigs. Respiratory sensitization: No relevant data found.
Germ Cell Mutagenicity	In vitro genetic toxicity studies were negative. Teratogenicity: For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.
Carcinogenicity IARC	No relevant data found.
Carcinogenicity ACGIH	No relevant data found.
Carcinogenicity NTP	No relevant data found.
Carcinogenicity OSHA	No relevant data found.
Reproductive Toxicity	In animal studies, did not interfere with reproduction.
Specific Target Organ Toxicity - Single Exposure	Evaluation of available data suggests that this material is not an STOT-SE toxicant.
Specific Target Organ Toxicity - Repeated Exposure	Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
Aspiration Hazard	Product test data not available.

Section 12: Ecological Information

Toxicity	Acute toxicity to fish: Material is practically non-toxic to fish on an acute basis (LC50>100 mg/L). For similar material(s): LC50, zebra fish (<i>Brachydanio rerio</i>), 96 Hour, 460 mg/l. Acute toxicity to aquatic invertebrates: EC50, <i>Daphnia magna</i> (Water flea), 48 Hour, 980 mg/l. Acute toxicity to algae/aquatic plants: ErC50, <i>Pseudokirchneriella subcapitata</i> (green algae), 72 Hour, Growth rate, 397 mg/l. Chronic aquatic toxicity. Chronic toxicity to aquatic invertebrates: For similar material(s): NOEC, water flea <i>Daphnia magna</i> , 21 d, number of offspring, 3.99 mg/l.
Persistence and Degradability	Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. 10-day Window: Pass. Biodegradation: 100%. Exposure time: 28 d. Method: OECD Test Guideline 301F or Equivalent.
Bio-accumulative Potential	Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Partition coefficient: n-octanol/water (log Pow): -2.31 Measured.
Mobility in Soil	Potential for mobility in soil is high (Koc between 50 and 150). Partition coefficient (Koc): 75 Estimated.
Other Adverse Effects	No data available

Section 13: Disposal Considerations

Waste Treatment Methods Product	DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.
Waste Treatment Methods Packaging	FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Landfill. Incinerator or other thermal destruction device.
Special Precautions Landfill or Incinerations	No data available
Other Information	No data available

Section 14: Transport Information

UN Number	Not dangerous goods
UN Proper Shipping Name	N/A
Transport Hazard Class(es)	N/A
Packaging Group	N/A
Environmental Hazards	N/A

Section 15: Regulatory Information

OSHA Hazard Communication Standard: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312: This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA. Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986)Section 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): This product contains no listed substances known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute. Pennsylvania Worker and Community Right-To-Know Act: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute. Unite States TSCA Inventory (TSCA): All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Section 16: Other Information

Additional Information	Hazard Rating System, NFPA: Health-0, Fire- 1, Reactivity-0
Prepared By	Lisa Russell
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Disclaimer

Letco Medical, LLC believes that the above information is correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. If the product is used as a component in another product, this information may not be applicable. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED ABOVE. Letco Medical shall not be held liable for any loss or damage resulting from handling, storage, use or from contact with the above product.