Safety Data Sheet

For Compliance with OSHA 29 CFR 1910.1200 and ANSI Z400.1-1998

Section 1: Identification

Product Name Tromethamine USP (Tris)
Commercial Name Spectris, Tris Buffer, Tris-amino, Tromethane, Trometamol, Trisamine, Trisaminol, Trismat
Product Use Not available
Restrictions On Use Not available

Product Code 30-4422

Company
PCCA
9901 South Wilcrest
Houston, TX 77099
Phone: 1-800-331-2498
Fax: 1-800-874-5760

In case of emergency contact:
CHEMTREC (24hr) 1-800-424-9300

Section 2: Hazard(s) Identification

OSHA Haz Com: CFR 1910.1200 Not available.

Signal Word NON-HAZARDOUS

Hazard Statement(s) Not available.

Pictogram(s) or Symbol(s)

Precautionary Statement(s):

Prevention Not available
Response Not available
Storage Not available
Disposal Not available.

Section 3: Composition/Information on Ingredients

Substance/Mixture Substance
Components Tromethamine USP (Tris)
% By Weight 100
CAS# 77-86-1
Molecular Weight 121.14
Chemical Formula C4H11NO3
Synonym(s) Tris(hydroxymethyl)aminomethane; Tris(hydroxymethyl)methylamine; 2-Amino-2-(hydroxymethyl) -1,3-propanediol; 2-Amino2-(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

Mixtures

Name	CAS#	% by Weight	TLV/PEL	LC50/LD50
Tromethamine USP (Tris)	77-86-1	100	Not available	Not available

Section 4: First-Aid Measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin Contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye Contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately
Symptoms/Effects	
Acute	Not available
Delayed	Not available

Immediate Medical Attention
Provide general supportive measures and treat symptomatically

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media
Water. Foam. Dry chemical or CO2. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable Extinguishing Media
Not available.

Products of Combustion
No unusual fire or explosion hazards noted

Firefighters Special Equipment and Precautions
Wear suitable protective equipment. Use water spray to cool unopened containers. As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing. Use standard firefighting procedures and consider the hazards of other involved materials.

Section 6: Accidental Release Measures

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid the generation of dusts during clean-up. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination. Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Handling: As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential. Storage: Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

Section 8: Exposure Controls/Personal Protection

Exposure Limits	Not available.
Engineering Controls	For laboratory operations, use good technique and limit open handling. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.

Personal Protection	Eye/face protection: Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available. Skin protection Hand protection: Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent. Other: Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors. Respiratory protection: Respirators are generally not required for laboratory operations. Chose respiratory protection appropriate to the task and the level of existing engineering controls. Thermal hazards: Wear appropriate thermal protective clothing, when necessary. General hygiene considerations: Handling practices in this SDS are recommendations for laboratory use of reference standards. Procedures for any other uses or quantities should be determined after an appropriate assessment.

Section 9: Physical and Chemical Properties

Appearance	White powder. Solid
Odor	characteristic odor.
Odor Threshold	Not available.

Melting Point	339.8 - 341.6 °F (171 - 172 °	**pH**	10.4 (0.1 molar aqueous solution)
Freezing Point	339.8 - 341.6 °F (171 - 172 °	**Vapor Pressure**	0.0000003 kPa at 25 °C
Boiling Point/Range	426.2 - 428 °F (219 - 220 °C)	**Vapor Density**	Not available.
Decomposition temperature	Not available.	**Viscosity**	Not available.
Partition Coefficient: n-octanol/water	Not available.	**Evaporation Rate**	Not available.
Flash Point	Not available	**Autoignition temperature**	Not available.
Flammability	Not available.	**Flammability or Explosive Limits:**	
		Lower	Not available.
		Upper	Not available.

Solubility(ies)	Freely Soluble in water, Ethylene glycol: Soluble. Methanol: Soluble. Ethanol: Soluble. Acetone: Soluble. Ethyl acetate: Soluble. Chloroform: Soluble. Dimethylformamide: Soluble.
Other	Molecular formula C4H11NO3 Molecular weight 121.14

Section 10: Stability and Reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport
Chemical Stability	Material is stable under normal conditions.
Hazardous Polymerization	No dangerous reaction known under conditions of normal use.
Conditions to Avoid	Contact with incompatible materials
Incompatible Materials	Strong oxidizing agents. Strong bases
Hazardous Decomposition Products	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions. NOx

Section 11: Toxicological Information

RTECS TY2900000

Acute Toxicity
Oral: LD50 Rat 5900 mg/kg Acute Dermal: LD50 Rat > 5000 mg/kg

Skin Corrosion/Irritation
Not available

Serious Eye Damage/Irritation
Not available

Respiratory or Skin Sensitization
Not available

Germ Cell Mutagenicity
Not available

Carcinogenicity
Not available

Reproductive Toxicity
Not available

Routes of Entry
Not available.

Symptoms Related to Exposure
Nausea. Difficulty breathing. Confusion. Lightheadedness. Headache. Numbness of the face and extremities. Muscle spasms. Tremor

Potential Health Effects
Not available

Target Organ(s) Not available.

Section 12: Ecological Information

Ecotoxicity
he product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistance and Degradability
Not available.

Bioaccumulative Potential
Not available

Mobility in Soil
Not available

Other Adverse Effects
Not available.

Section 13: Disposal Considerations

Waste Disposal
Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste

Disposal of Container
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner

Other Considerations
Contaminated packaging:Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14: Transport Information

DOT Classification
Not a DOT controlled material (United States). This material is not classified dangerous good according to international transportation regulations (ADR/RID-IMDG-ICAO/IATA).

Section 15: Regulatory Information

Regulations
TSCA 8(b) inventory: Tromethamine 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. OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 201-064-4). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.

Other
WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC). DSCL (EEC): R36/37/38- Irritating to eyes, respiratory system and skin.; S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37- Wear suitable gloves.

Section 16: Other Information

Not available.