PURITAN PRODUCTS

Effective Date: 08/01/14
Replaces Revision: Not Applicable

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: TRIS (HYDROXYMETHYL) AMINOMETHANE
Synonyms: THAM; Tris; Trisaminol; Trismethylolaminomethane; Tris Base
2-Amino-2-(Hydroxymethyl) Propane-1,3-Diol, Tromethamine
Chemical Formula: (CH2OH)3CNH2
Recommended Use of the Chemical and Restrictions On Use: Laboratory Chemicals
Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225
Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

Classification of the Substance or Mixture: Not classified

Risk Phrases: None

Label Elements:

Trade Name: TRIS

Signal Word: None

Pictogram: None

Hazard Statements: None

Precautionary Statements: None

3. Composition / Information on Ingredients

CAS Number: 77-86-1
EC Number: 201-064-4
Molecular Weight: 121.14 g/mol

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Tris (Hydroxymethyl) Aminomethane	77-86-1	201-064-4	> 99%	Yes	Substance

4. First-aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Consult a physician.

Ingestion: Consult a physician or POISON CONTROL center. DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to an unconscious person.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Consult a physician.

Eye Contact: Remove contacts, if present and easy to do so. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Consult a physician.

5. Fire-fighting Measures

Flammable Properties: Not expected to be a fire hazard.

Fire Extinguishing Media: Use water spray, Alcohol-resistant foam, dry chemical or Carbon Dioxide.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment as specified in Section 8.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Ventilate area of leak or spill. Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not let product enter drains.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids.) Observe all warnings and precautions listed for the product.

8. Exposure Controls / Personal Protection

Airborne Exposure Limits: None established.

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. For emergencies or instances where the exposure levels are not known, use a full face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in Oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White crystalline solid
Odor: Odorless
Odor Threshold: Not determined
pH: 10.5 - 12
Melting Point: 169C (336F)
Boiling Point / Boiling Range: 288C (550F) at 1,013 hPa (760 mmHg) - Decomposes below the boiling point.
Flash Point: No data available
Evaporation Rate (BuAc=1): No data available
Flammability: No data available
Upper / Lower Flammability or Explosive Limits: No data available
Vapor Pressure (mm Hg): No data available
Vapor Density (Air=1): No data available
Relative Density: 121.14 g/mol
Solubility: 678 g/l at 20C (68F)
Partition Coefficient: n-octanol / water: log Pow: -2.31 at 20C (68F)
Auto-ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary use and storage conditions.

Possibility of Hazardous Reactions and Conditions to Avoid: Hygroscopic and incompatibles.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Nitrogen Oxides, Carbon Monoxide, Carbon Dioxide, Nitrogen.

11. Toxicological Information

Emergency Overview: WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN AND EYES.

Potential Health Effects:

Inhalation: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

Ingestion: May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns.

Skin Contact: Causes skin irritation and possible burns.

Eye Contact: Causes eye irritation and possible burns.

Chronic Exposure: Prolonged or repeated skin contact may cause dermatitis.

Aggravation of Pre-existing Conditions: No information found.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Tris (Hydroxymethyl) Aminomethane (77-86-1)	No	No	None

Acute Toxicity: LD50 Oral - rat - > 3,000 mg/kg; LD50 Dermal - rat - > 5,000 mg/kg

12. Ecological Information

Ecotoxicity:
EC50 Daphnia: > 980 mg/l - 48 h
Toxicity to algae EC50: 397 mg/l - 72 h
Toxicity to algae NOEC: 100 mg/l - 72 h

Persistence and Degradability: Readily biodegradable.

Bioaccumulative Potential: No bioaccumulation is to be expected (log Pow <= 4.)

Mobility in Soil: No information found.

Other adverse effects: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Not regulated

Maritime Transport IMDG/GGVSea
Not regulated

Air Transport ICAO-TI and IATA-DGR
Not regulated

15. Regulatory Information

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Tris (Hydroxymethyl) Aminomethane (77-86-1)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Tris (Hydroxymethyl) Aminomethane (77-86-1)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	List Chemical	Catg.
Tris (Hydroxymethyl) Aminomethane (77-86-1)	No	No	No	No

Federal, State & International Regulations - Part 2

	RCRA		TSCA
Ingredient	**CERCLA**	**261.33**	**8(d)**
Tris (Hydroxymethyl) Aminomethane (77-86-1)	No	No	No

Chemical Weapons Convention: No		**TSCA 12(b):** No		**CDTA:** No
SARA 311/312:	**Acute:** Yes	**Chronic:** No	**Fire:** No	**Pressure**: No
Reactivity: No		Pure / Solid		

Australian Hazchem Code: Not classified

Poison Schedule: None allocated

16. Other Information

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