

# MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

## 1. Chemical Product and Company Identification

**Product Name:** Tris**Product Number:** EC-406

**Chemical Names/Description:** TRIS; Tris (Hydroxymethyl) Aminomethane;  
2-Amino-2-(hydroxymethyl)-1,3-propanediol

**Manufacturer**  
National Diagnostics  
305 Patton Drive  
Atlanta, GA 30336

**Telephone Numbers**  
(800) 526-3867  
(404) 699-2121

**Emergency Numbers**  
**Chemtrec**  
**(800) 424-9300 (U.S. & Canada)**  
**01-703-527-3887 (outside U.S. & Canada)**

## 2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
Tris-Base	100	77-86-1	201-064-4	none established

## 3. Hazards Identification

### Appearance and Odor

Transparent, colorless crystals.

### EMERGENCY OVERVIEW - IMMEDIATE HAZARD

CAUSES IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

### EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:

CHRONIC DERMATITIS MAY FOLLOW SKIN CONTACT.

### Potential Health Effects

#### Inhalation

Causes irritation to the respiratory tract.

#### Ingestion

Causes irritation and reddening to the mucous membranes of the mouth, esophagus, and gastrointestinal tract.

#### Skin

Causes irritation to the skin.

### **Eyes**

Causes irritation to the eyes.

## **Signs and Symptoms of Overexposure**

### **Inhalation**

Coughing, shortness of breath.

### **Ingestion**

Symptoms may include nausea, vomiting, and diarrhea. Large oral doses may cause weakness, collapse, blood clotting, and coma. The estimated lethal dose of Tris Base is 50 grams dry solid.

### **Skin**

Redness, itching, and pain.

### **Eyes**

Redness, itching, and pain.

### **Carcinogenicity**

Not listed as a carcinogen by NTP or IARC.

### **Mutagenicity**

No information found.

### **Reproductive Toxicity**

No information found.

### **Teratogenic Effects**

No information found.

### **Routes of Entry**

Ingestion.

### **Target Organ Statement**

No information available.

## **4. First Aid Measures**

### **Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

### **Ingestion**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

### **Skin**

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

### **Eyes**

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## **5. Fire Fighting Measures**

Flash Point	N.A.	Flammable Limits	N.A.
Flash Point Method	N.A.	Autoignition temperature	N.A.

### **Extinguishing media**

Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide.

### **Protective Equipment**

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

### **Hazardous Combustion Products**

Thermal decomposition products may include toxic oxides of nitrogen and carbon.

### **Unusual Fire and Explosion Hazards**

Not considered an explosion hazard.

NFPA Codes: Health 1 Flammability 1 Reactivity 0

## **6. Accidental Release Measures**

### **Steps to be taken in case material is released or spilled**

Remove all sources of ignition. 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.

### **Waste Disposal Method**

Disposal must be made in accordance with applicable federal, state, and local regulations.

### **Personal Precautions**

Wear appropriate protective equipment as specified in section 8.

## **7. Handling and Storage**

### **Handling**

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

### **Storage**

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials (section 10).

### **Storage Temperature**

Room Temperature

### **Disposal**

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

## **8. Exposure Controls/Personal Protection**

### **Airborne Exposure Limits**

Component: Tris-Base

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

### **Engineering Controls**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### **Respiratory Protection**

For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

## Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

## Other Control Measures

There is insufficient data in the published literature to assign complete numerical safety ratings and laboratory protective equipment for this product. Special precautions must be used in storage, use and handling.

## 9. Physical Properties

<b>Boiling point</b>	219 - 220C	<b>Evaporation Rate</b>	No information found
<b>Melting point</b>	171 - 172C	<b>Solubility in water</b>	550 mg/mL
<b>Vapor pressure (mmHg)</b>	No information found	<b>pH</b>	10.4 (0.1 M soln.)
<b>Vapor density (Air = 1)</b>	No information found	<b>Specific gravity (H<sub>2</sub>O = 1)</b>	No information found
<b>% volatile by volume</b>	0		

## 10. Stability and Reactivity

### Stability

Stable under ordinary conditions of use and storage.

### Conditions to Avoid

Heat, incompatibles.

### Hazardous Decomposition Products

Burning may produce carbon monoxide, carbon dioxide, nitrogen oxides.

### Hazardous Polymerization

Will not occur

### Incompatibles

Tris-Base:

No incompatibility data found.

## 11. Toxicological Information

### Product LD50 Values

Tris	Oral Rat LD50 (mg/kg):	5900
Tris	Dermal Rabbit LD50 (mg/kg):	no information found

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Tris-Base	No	No	None

## 12. Ecological Information

### Tris-Base

No information found on either the environmental fate or environmental toxicity of this material.

## 13. Disposal Considerations

Observe all national, state, and local regulations regarding product disposal. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

## 14. Transport Information

### D.O.T.

Proper Shipping Name: Not regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

### I.A.T.A.

Proper Shipping Name: Not regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

### I.M.O.

Proper Shipping Name: Not regulated

Hazard Class: N.A.

UN Number: N.A.

Packing Group: N.A.

## 15. Regulatory Information

### United States

#### TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

#### SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Tris-Base	No	No	No	Yes	No

### Europe

#### EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

## 16. Other Information

**NFPA Codes:    Health 1    Flammability 1    Reactivity 0**

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