

# SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Product Name:** TTE Glycerol Tolerant Buffer 20X

**Product Number:** EC-871

### 1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

### 1.3 Details of the Supplier of the Safety Data Sheet

#### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30036  
(404) 699-2121  
(800) 526-3867  
info@nationaldiagnostics.com

### 1.4 Emergency Telephone Number

#### ChemTel Inc.

Contract number MIS8894340  
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)  
01-800-099-0731 (Mexico)  
400-120-0751 (China)  
000-800-100-4086 (India)  
1-300-954-583 (Australia)  
0-800-591-6042 (Brazil)  
+1-813-255-3924 (All other regions)

## SECTION 2 - HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H315 - Skin Corrosion/Irritation (Category 2)  
H319 - Serious Eye Damage/Eye Irritation (Category 2A)  
H335 - Specific Target Organ Toxicity, Single Exposure (Category 3)

### 2.2 Label Elements

#### GHS LABEL ELEMENTS AND CLASSIFICATION

##### GHS Label Elements



#### WARNING

H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.  
P260 - Do not breathe dust/fumes/gas/mist/vapors/spray.  
P264 - Wash skin thoroughly after handling.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
P308+P313 - IF exposed or concerned: Call a POISON CENTER or doctor/physician.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixture

#### Chemical Names/Description

Buffered aqueous solution of Tris base, taurine and EDTA.

#### Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Tris-Base	22	77-86-1	201-064-4	H315, H319, H335

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of 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.

**4.2 Most Important Symptoms and Effects, Both Acute and Delayed****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.

**4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed**

Unknown/not applicable

**SECTION 5 - FIRE FIGHTING MEASURES****5.1 Extinguishing media**

Use media appropriate to the primary cause of fire.

**5.2 Special Hazards Arising from the Substance/Mixture****Hazardous Combustion Products**

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

**Hazardous Decomposition Products**

Burning Tris-base may produce carbon monoxide, carbon dioxide and nitrogen oxides.

**Hazardous Polymerization**

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

**5.3 Advice for Firefighters**

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.

**5.4 Further Information**

No data available.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES****6.1 Personal Precautions**

Wear appropriate protective equipment as specified in Section 8.

**6.2 Environmental Precautions**

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

**6.3 Methods and Materials for Containment and Cleaning Up**

Contain and clean up spill immediately, prevent from entering floor drains. Contain liquids using absorbents. Shovel all spill materials into disposal drum. Scrub spill area with detergent, flush with copious amounts of water.

**6.4 References to Other Sections**

For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

**SECTION 7 - HANDLING AND STORAGE****7.1 Precautions for Safe Handling**

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

## 7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area.

### Incompatibles

No incompatibility data found.

## 7.3 Specific End Uses

Investigational research by professional users

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

### 8.1 Control Parameters

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

### 8.2 Exposure Controls

#### 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 dust or mist is apparent, a full-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face 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 protective gloves and clean body covering clothing.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear, colorless solution	b. Odor	None
c. Odor Threshold	N.A.	d. pH	9.2
e. Melting/Freezing Point (°C)	0	f. Boiling point (°C)	104.4
g. Flash Point (°C)	N.A.	h. Evaporation Rate	1.0
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	Water	l. Vapor Density (Air = 1)	N.A.
m. Relative Density	1.16	n. Water Solubility	Soluble
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	N.A.
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	No data available.
s. Explosive Properties	N.A.	t. Oxidizing Properties	N.A.

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

Not reactive under normal conditions of use and storage.

### 10.2 Chemical Stability

Stable under ordinary conditions of use and storage.

### 10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### 10.4 Conditions to Avoid

Heat, incompatibles.

### 10.5 Incompatible Materials

No incompatibility data found.

### 10.6 Hazardous Decomposition Products

Burning Tris-base may produce carbon monoxide, carbon dioxide and nitrogen oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

## Product LD50 Values

### Oral Rat LD50 (mg/kg)

26818

### Dermal Rabbit LD50 (mg/kg)

No data

## Component Cancer List Status

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

## 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.

## 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.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 460mg/l (Golden ide)	EC50: 59.8 mg/L (Daphnia)	EC50: 473mg/l @ 48 hrs	CE50>1000mg/L (3hrs)
	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

### 12.2 Persistence and Degradability

Readily Biodegradable (>97% degradation at 28 days)

### 12.3 Bioaccumulative Potential

No data

### 12.4 Mobility in Soil

Log Koc 1.57-1.85

### 12.5 Results of PBT and vPvB Assessment

Not a PBT or vPvB

### 12.6 Other Adverse Effects

None

## SECTION 13 - DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

## SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	Not Regulated	Not Regulated	Not Regulated	Not Regulated
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.
14.4 Packing Group	N.A.	N.A.	N.A.	N.A.
14.5 Environmental Hazards	N.A.	N.A.	N.A.	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

## SECTION 15 - REGULATORY INFORMATION

### 15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

#### 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.

## SECTION 16 - OTHER INFORMATION

### Revisional Updates

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.2

10/24/2013 - Released Version 1.0

### NFPA Codes

Health 1 Flammability 0 Reactivity 0

### Dangers

#### Tris-Base

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

**MANUFACTURER DISCLAIMER:** The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.