

# 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: TBST 10X

Product Number: EC-882

### 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)

H320 - Serious Eye Damage/Eye Irritation (Category 2B)

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.

H320 - Causes eye irritation.

H335 - May cause respiratory irritation.

P264 - Wash skin thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

P332+P313 - IF SKIN irritation occurs: Get medical advice/attention.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses if present and easy to do. Continue rinsing.

P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixture

#### Chemical Names/Description

Aqueous buffer

#### Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Tris-Base	3	77-86-1	201-064-4	H315, H319, H335
Potassium Chloride	< 1	7447-40-7	231-211-8	N.A.
Polysorbate 20	< 1	9005-64-5	500-018-3	N.A.

## 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

##### Tris-Base:

Coughing, shortness of breath.

##### Potassium Chloride:

Inhalations of high concentrations of dust may cause nasal or lung irritation.

##### Polysorbate 20:

Not expected to be a health hazard by inhalation.

#### Ingestion

##### Tris-Base:

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.

##### Potassium Chloride:

Large quantities can produce gastrointestinal irritation and vomiting.

##### Polysorbate 20:

Abdominal spasms, diarrhea.

#### Skin

##### Tris-Base:

Redness, itching, and pain.

##### Potassium Chloride:

May cause skin irritation.

##### Polysorbate 20:

Redness, swelling.

#### Eyes

##### Tris-Base:

Redness, itching, and pain.

##### Potassium Chloride:

Causes eye irritation. May cause chemical conjunctivitis.

##### Polysorbate 20:

Pain, redness.

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

Unknown/not applicable

## SECTION 5 - FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

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

### 5.2 Special Hazards Arising from the Substance/Mixture

#### Hazardous Combustion Products

Highly toxic gases may be involved in fires of this product.

#### Hazardous Decomposition Products

Oxides of the contained metal and halogen, possibly also free, or ionic halogen

#### 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

Use absorbent material to collect and contain for salvage or disposal.

### 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

##### Tris-Base:

No incompatibility data found.

##### Potassium Chloride:

Bromine trifluoride; potassium permanganate plus sulfuric acid.

##### Polysorbate 20:

Strong oxidizers, acids.

### 7.3 Specific End Uses

Investigational research by professional users

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

### 8.1 Control Parameters

#### Component: Tris-Base

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

#### Component: Potassium Chloride

ACGIH Threshold Limit Value (TLV): 10 mg/m<sup>3</sup>

OSHA Permissible Exposure Limit (PEL): 15 mg/m<sup>3</sup>

#### Component: Polysorbate 20

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	7
e. Melting/Freezing Point (°C)	0	f. Boiling point (°C)	104
g. Flash Point (°C)	N.A.	h. Evaporation Rate	N.A.
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	N.A.	l. Vapor Density (Air = 1)	N.A.
m. Relative Density	1.05	n. Water Solubility	Miscible
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

No Data

### 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

No information found.

### 10.5 Incompatible Materials

**Tris-Base:**

No incompatibility data found.

**Potassium Chloride:**

Bromine trifluoride; potassium permanganate plus sulfuric acid.

**Polysorbate 20:**

Strong oxidizers, acids.

### 10.6 Hazardous Decomposition Products

Oxides of the contained metal and halogen, possibly also free, or ionic halogen

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Product LD50 Values

#### Oral Rat LD50 (mg/kg)

260000

#### Dermal Rabbit LD50 (mg/kg)

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Tris-Base	No	No	None
Potassium Chloride	No	No	None
Polysorbate 20	No	No	none

### Potential Health Effects

#### Inhalation

**Tris-Base**

Causes irritation to the respiratory tract.

**Potassium Chloride**

May cause respiratory tract irritation. Can produce delayed pulmonary edema.

**Polysorbate 20**

Not expected to be a health hazard by inhalation.

## **Ingestion**

### **Tris-Base**

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

### **Potassium Chloride**

May produce weakness and circulatory problems. May affect heart. In severe cases, ingestion may be fatal.

### **Polysorbate 20**

Large doses may produce abdominal spasms, diarrhea.

## **Skin**

### **Tris-Base**

Causes irritation to the skin.

### **Potassium Chloride**

Contact may cause irritation or rash, particularly with moist skin.

### **Polysorbate 20**

May cause irritation or sensitization in sensitive individuals.

## **Eyes**

### **Tris-Base**

Causes irritation to the eyes.

### **Potassium Chloride**

Potassium chloride is moderate eye irritant. Redness, tearing, possible abrasion can occur.

### **Polysorbate 20**

May cause irritation.

## **Carcinogenicity**

### **Tris-Base**

Not listed as a carcinogen by NTP or IARC.

### **Potassium Chloride**

Not listed by ACGIH, IARC, NIOSH, NTP, OR OSHA.

### **Polysorbate 20**

Not listed as a known or anticipated carcinogen by NTP or IARC.

## **Mutagenicity**

### **Tris-Base**

No information found.

### **Potassium Chloride**

Unscheduled DNA Synthesis: Oral, rat = 1500 ug/kg.; Mutation in Microorganisms = Mouse, Lymphocyte = 2048 mg/L.; DNA Damage = Hamster, Ovary = 260 mmol/L.; Cytogenetic Analysis: Hamster, Lung = 12 gm/L

### **Polysorbate 20**

No information found.

## **Reproductive Toxicity**

### **Tris-Base**

No information found.

### **Potassium Chloride**

No information available.

### **Polysorbate 20**

No information found.

## **Teratogenic Effects**

### **Tris-Base**

No information found.

### **Potassium Chloride**

No information available.

### **Polysorbate 20**

No information found.

## **Routes of Entry**

### **Tris-Base**

Ingestion.

**Potassium Chloride**  
Ingestion, inhalation, skin and eye contact.

**Polysorbate 20**  
No information found.

## Target Organ Statement

**Tris-Base**  
No information available.

**Potassium Chloride**

**Polysorbate 20**  
No information found.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

**COMPONENT: Tris-Base**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
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)
	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**COMPONENT: Potassium Chloride**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, Fathead minnow) 880mg/L	EC50 (48hr, Daphnia) 440-880 mg/L	EC50 (72hrs) >100mg/L	EC50 (3hr) >1000mg/L
	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**COMPONENT: Polysorbate 20**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data
	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

### 12.2 Persistence and Degradability

**Tris-Base**  
Readily Biodegradable (>97% degradation at 28 days)

**Potassium Chloride**  
No data

**Polysorbate 20**  
No data

### 12.3 Bioaccumulative Potential

**Tris-Base**  
No data

**Potassium Chloride**  
No data

**Polysorbate 20**  
No data

### 12.4 Mobility in Soil

**Tris-Base**  
Log Koc 1.57-1.85

**Potassium Chloride**  
No data

**Polysorbate 20**

No data

## 12.5 Results of PBT and vPvB Assessment

### Tris-Base

Not a PBT or vPvB

### Potassium Chloride

No data

### Polysorbate 20

No data

## 12.6 Other Adverse Effects

### Tris-Base

None

### Potassium Chloride

None

### Polysorbate 20

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
Potassium Chloride	No	No	No	Yes	No
Polysorbate 20	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

6/27/2013- 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.

#### Potassium Chloride

None

#### Polysorbate 20

None

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