MATERIAL SAFETY DATA SHEET

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

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **TE Buffer 100X** PRODUCT NUMBER: EC-862

CHEMICAL NAMES/
DESCRIPTION:

MANUFACTURER: National Diagnostics, Inc.
305 Patton Drive
Atlanta, GA 30336

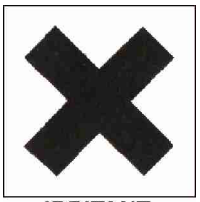
TELEPHONE NUMBER:
(800) 526-3867
(404) 699-2121

EMERGENCY NUMBER:
CHEMTREC (800) 424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	% Comp	CAS #	EINECS #	TLV (units)
ETHYLENEDIAMINETETRAACETIC ACID (EDTA)	4.7	60-00-4	200-449-4	None Established
Water	80	7732-18-5	231-791-2	
TRIS HYDROCHLORIDE	15.3	1185-53-1	214-684-5	

EEC LABEL SYMBOL AND CLASSIFICATION



IRRITANT

R: 36/37/38

Irritating to eyes, respiratory system and skin.

S: 22-26

Do not breath dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

3. HAZARDS IDENTIFICATION

APPEARANCE AND ODOR: Clear odorless liquid.

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

CAUTION! MAY BE HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Water

No information found.

TRIS HYDROCHLORIDE

WARNING! HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

No information found.

Water

No information found.

TRIS HYDROCHLORIDE

No information found.

POTENTIAL HEALTH EFFECTS

INHALATION

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Causes irritation of the mucous membrane and upper respiratory tract.

Water

No information found.

TRIS HYDROCHLORIDE

May cause respiratory tract irriation. The toxigological properties of this substance have not been fully investigated.

INGESTION

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Exposure may cause kidney injury, muscle cramps, bone-marrow depression, and a generalized allergic reaction.

Water

No information found.

TRIS HYDROCHLORIDE

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. The toxicological properties of this substance have not been fully investigated.

SKIN

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Causes skin irritation. Causes redness and pain.

Water

No information found.

TRIS HYDROCHLORIDE

Causes skin irritation. Causes redness and pain.

EYES

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Causes eye irritation. Causes redness and pain.

Water

No information found.

TRIS HYDROCHLORIDE

Causes eye irritation. Causes redness and pain.

SIGNS AND SYMPTOMS 0F OVEREXPOSURE

INHALATION

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Symptoms may include coughing and shortness of breath.

Water

No information found.

TRIS HYDROCHLORIDE

Symptoms may include coughing and shortness of breath.

INGESTION

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Symptoms may include irritation and reddening to the mucous membranes of the mouth, esophagus, and gastrointestinal tract.

Water

No information found.

TRIS HYDROCHLORIDE

Symptoms may include irritation and reddening to the mucous membranes of the mouth, exophagus, and gastrointestinal tract.

SKIN

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Symptoms may include irritation with redness and pain.

Water

No information found.

TRIS HYDROCHLORIDE

Symptoms may include irritation with redness and pain.

EYES

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Symptoms may include irritation, redness, pain, and corneal damage.

Water

No information found.

TRIS HYDROCHLORIDE

Symptoms may include irritation, redness, pain, and corneal damage.

CARCINOGENICITY

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

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

Water

No information available.

TRIS HYDROCHLORIDE

Not listed by OSHA, ACGIH, NIOSH, NTP or IARC as a known or anticipated carcinogen.

MUTAGENICITY

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Cytogenetic Analysis: intraperitoneal - mouse 50mmol/L. DNA Inhibition: hamster fibroblast 500ug/L, rabbit kidney 250 umol/L.

Water

No information available.

TRIS HYDROCHLORIDE

No information available.

REPRODUCTIVE TOXICITY

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Fertility: Post-implantation mortality, oral - rat TDLo = 7632 mg/kg.

Water

No information available.

TRIS HYDROCHLORIDE

No information available.

TERATOGENIC EFFECTS

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Embryo or Fetus: Stunted fetus, oral - rat TDLo = 7632 mg/kg. Specific developmental abnormalities: cardiovascular, craniofacial, musculoskeletal, respiratory, and urogenital, oral - rat TDLo = 7632 mg/kg.

Water

No information available.

TRIS HYDROCHLORIDE

No information available.

ROUTES OF ENTRY

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Inhalation, ingestion or skin contact.

Water

No information available

TRIS HYDROCHLORIDE

Inhalation, ingestion or skin contact.

TARGET ORGAN STATEMENT

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

No information available

Water

No information available

TRIS HYDROCHLORIDE

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 physicia

INGESTION:

If swallowed, wash out mouth with water provided person is conscious. 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:
N.A.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Not considered an explosion hazard.

NFPA CODES: Health: 1 Flammability: 0 Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Use a vacuum cleaner equipped with charcoal exhaust scrubber or hose from mechanical exhaust ventilation system to vacuum spills. If this is not possible, sweep up spills and place in a covered waste disposal container. Flush area with water.

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. Protect from physical damage. Isolate from incompatible materials (section 10).

STORAGE TEMPERATURE: 20C

DISPOSAL
Observe all national, state, and local regulations regarding disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS:

Component: ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

ACGIH Threshold Limit Value (TLV): None Established

OSHA Permissible Exposure Limit (PEL): None Established

Component: Water

ACGIH Threshold Limit Value (TLV):

OSHA Permissible Exposure Limit (PEL):

Component: TRIS HYDROCHLORIDE

ACGIH Threshold Limit Value (TLV):

OSHA Permissible Exposure Limit (PEL):

ENGINEERING CONTROLS
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborn 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

Safety glasses.

SKIN PROTECTION

Wear protective gloves and clean body covering clothing.

OTHER CONTROL MEASURES

9. PHYSICAL PROPERTIES

Boiling Point	as water	Evaporation Rate	water
Melting Point	~ 6 C	Solubility in Water	miscible
Vapor Pressure mm Hg	water	pH	9
Vapor Density Air = 1	Air	Specific Gravity (H20 = 1)	1.12
% Volatile by Volume	80		

10. STABILITY AND REACTIVITY

STABILITY

Stable at room temperature in closed containers under normal storage and handling conditions. Decarboxylates above 150C.

CONDITIONS TO AVOID

Incompatible materials, dust generation, excess heat.

HAZARDOUS DECOMPOSITION PRODUCTS

Nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

HAZARDOUS POLYMERIZATION

Will not occur

INCOMPATIBLES

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

Strong oxidizing agents, strong bases, aluminum, copper, copper alloys, nickel.

Water

No incompatibility data found.

TRIS HYDROCHLORIDE

Bases, oxidizing agents, acids, aldehydes, copper, brass, and aluminum.

11. TOXICOLOGICAL INFORMATION

PRODUCT LD50 VALUES

TE Buffer 100X	Oral Rat LD50 (mg/kg):	12760
TE Buffer 100X	Dermal Rabbit LD50 (mg/kg):	N.D.

COMPONENT CANCER LIST STATUS

	NTP Carcinogen		
Component	Known	Anticipated	IARC Category
ETHYLENEDIAMINETETRAACETIC ACID (EDTA)	No	No	None

Water	No	No	None
TRIS HYDROCHLORIDE	No	No	None

12. ECOLOGICAL INFORMATION

ETHYLENEDIAMINETETRAACETIC ACID (EDTA)

EDTA is expected to complex with trace metals and alkaline earth metals present in the soil, thereby causing an increase in the total solubility of the metals. EDTA may eventually predominate as the solubility of the metals. EDTA may eventually predominate as the Fe(III) chelate in acidic soils and as the Ca chelate in alkaline soils. Biodegradation of EDTA in aerobic soils is the dominant.

Water

Not applicable.

TRIS HYDROCHLORIDE

No information found.

13. DISPOSAL CONSIDERATIONS

Observe all national, state, and local regulations regarding disposal.

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:

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

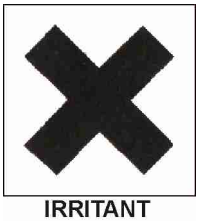
Component	Fire	Pressure	Reactivity	Acute	Chronic
ETHYLENEDIAMINETETRAACETIC ACID (EDTA)	No	No	No	Yes	No
Water	No	No	No	No	No
TRIS HYDROCHLORIDE	No	No	No	Yes	No

EUROPE

EEC Regulatory:

All intentional ingredients are listed on the European EINECS Inventory.

EEC LABEL SYMBOL AND CLASSIFICATION



IRRITANT

R: 36/37/38

Irritating to eyes, respiratory system and skin.

S: 22-26

Do not breath dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16. OTHER INFORMATION

NFPA CODES: Health: 1 Flammability: 0 Reactivity: 0

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of 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.