

# 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:** UreaGel Complete Buffer

**Product Number:** EC-841

### 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.

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

Solution of Buffer Salts. Other ingredients are less than 1%.

#### Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Boric Acid	2 - 5	10043-35-3	233-139-2	H360
Tris-Base	5 - 10	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

#### Boric Acid:

May be absorbed from the mucous membranes of the respiratory tract, and depending on the amount of exposure could result in symptoms paralleling ingestion.

#### Tris-Base:

Coughing, shortness of breath.

### Ingestion

#### Boric Acid:

Depending on the amount of exposure, ingestion could result in the development of nausea, vomiting, diarrhea, drowsiness, rash, headache, fall in body temperature, low blood pressure, renal injury, cyanosis, coma, and death. Adult fatal dose reported at 5 to > 30 grams.

#### 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.

### Skin

#### Boric Acid:

Symptoms of skin absorption parallel inhalation and ingestion.

#### Tris-Base:

Redness, itching, and pain.

### Eyes

#### Boric Acid:

Redness, itching and pain.

#### Tris-Base:

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

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

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

#### Hazardous Combustion Products

May produce carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride when heated to decomposition.

#### Hazardous Decomposition Products

May produce carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride when heated to decomposition.

#### 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 apparatuses 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

#### Boric Acid:

Potassium, acetic anhydride, alkalis, carbonates, and hydroxides.

#### Tris-Base:

No incompatibility data found.

## 7.3 Specific End Uses

Investigational research by professional users

# SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

## 8.1 Control Parameters

### Component: Boric Acid

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

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

### Component: Tris-Base

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

# 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	8.3
e. Melting/Freezing Point (°C)	-4	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.

**SECTION 10 - STABILITY AND REACTIVITY****10.1 Reactivity**

Not reactive under ordinary 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, flames, ignition sources, and incompatibles.

**10.5 Incompatible Materials****Boric Acid:**

Potassium, acetic anhydride, alkalis, carbonates, and hydroxides.

**Tris-Base:**

No incompatibility data found.

**10.6 Hazardous Decomposition Products**

May produce carbon monoxide, carbon dioxide, nitrogen oxides and hydrogen chloride when heated to decomposition.

**SECTION 11 - TOXICOLOGICAL INFORMATION****Product LD50 Values****Oral Rat LD50 (mg/kg)**

91724

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

Not available

**Component Cancer List Status**

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

**Potential Health Effects****Inhalation****Boric Acid**

Causes irritation to the mucous membranes of the respiratory tract.

**Tris-Base**

Causes irritation to the respiratory tract.

**Ingestion****Boric Acid**

Harmful or fatal if ingested in sufficient volume.

**Tris-Base**

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

**Skin****Boric Acid**

Causes irritation to the skin.

**Tris-Base**

Causes irritation to the skin.

**Eyes****Boric Acid**

Causes irritation to the eyes.

**Tris-Base**

Causes irritation to the eyes.

**Carcinogenicity****Boric Acid**

Not listed as a carcinogen by NTP or IARC.

**Tris-Base**  
Not listed as a carcinogen by NTP or IARC.

### Mutagenicity

**Boric Acid**  
No information found.

**Tris-Base**  
No information found.

### Reproductive Toxicity

**Boric Acid**  
Studies of dogs and rats have shown that infertility and damage to testes can result from acute or chronic ingestion of boric acid. Evidence of toxic effects on the human reproductive system is inadequate.

**Tris-Base**  
No information found.

### Teratogenic Effects

**Boric Acid**  
No information found.

**Tris-Base**  
No information found.

### Routes of Entry

**Boric Acid**  
Ingestion and inhalation. Not significantly absorbed through the intact skin. Readily absorbed through damaged or burned skin.

**Tris-Base**  
Ingestion.

### Target Organ Statement

**Boric Acid**  
Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of this substance.

**Tris-Base**  
No information available.

## SECTION 12 - ECOLOGICAL INFORMATION

### 12.1 Toxicity

**COMPONENT: Boric Acid**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (Limanda limanda, 72hrs) 75mg/L	LC50 (48hr, Daphnia) 133mg/L	NOEC 50mg/L	EC50:(3hr) 175mg/L

	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	NOEC (21day, mortality) 175mg/kg soil	No data	EC50 24-250mg/L

**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

### 12.2 Persistence and Degradability

**Boric Acid**  
No data

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

### 12.3 Bioaccumulative Potential

**Boric Acid**  
No data

Tris-Base  
No data

## 12.4 Mobility in Soil

Boric Acid  
logKp 0.34L/kg

Tris-Base  
Log Koc 1.57-1.85

## 12.5 Results of PBT and vPvB Assessment

Boric Acid  
Does not apply (inorganic)

Tris-Base  
Not a PBT or vPvB

## 12.6 Other Adverse Effects

Boric Acid  
None

Tris-Base  
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

##### SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Boric Acid	No	No	No	Yes	Yes
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  
7/23/2013- Released Version 1.0

### NFPA Codes

Health 1 Flammability 0 Reactivity 0

### Dangers

#### Boric Acid

H360 - May damage fertility or the unborn child.

#### Tris-Base

H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H335 - May cause respiratory irritation.

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