Date revised: 5/30/2012

MATERIAL SAFETY DATA SHEET

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

1. Chemical Product and Company Identification

Product Name: UreaGel Complete Buffer **Product Number:** EC-841

Chemical Names/Description: Solution of Buffer Salts. Other ingredients are less than 1%.

Manufacturer

National Diagnostics305 Patton DriveAtlanta, 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)
Boric Acid	2 - 5	10043-35-3	233-139-2	10 mg/m3 total dust
Tris-Base	5 - 10	77-86-1	201-064-4	none established

3. Hazards Identification

Appearance and Odor

Clear colorless solution

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

Boric Acid

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

Tris-Base

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

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

Boric Acid

PROLONGED ABSORPTION OF BORIC ACID CAUSES WEIGHT LOSS, VOMITING, DIARRHEA, SKIN RASH, CONVULSIONS AND ANEMIA. AFFECTS CENTRAL NERVOUS SYSTEM, LIVER, AND KIDNEYS.

Tris-Base

CHRONIC DERMATITIS MAY FOLLOW SKIN CONTACT.

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.

Signs and Symptoms of Overexposure

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.

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 Toxicitiy

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.

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 ap

Hazardous Combustion Products

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

Unusual Fire and Explosion Hazards

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust 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

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.

Waste Disposal Method

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

Personal Precautions

Wear appropriate protective equipment as speicified 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.

Storage Temperature

Room Temperature

Disposal

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

8. Exposure Controls/Personal Protection

Airborne Exposure Limits

Component: Boric Acid	
ACGIH Threshold Limit Value (TLV):	10 mg/m3 total dust
OSHA Permissable Exposure Limit (PEL):	15 mg/m3 total dust
Component: Tris-Base	
ACGIH Threshold Limit Value (TLV):	none established
OSHA Permissable Exposure Limit (PEL):	none established

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.

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

Boiling point	220 F	**Evaporation rate**	1.0
Melting point	N.A.	**Solubity in water**	Soluble
Vapor pressure (mmHg)	Water	**pH**	8.3
Vapor density (Air = 1)	N.A.	**Specific gravity (H2O = 1)**	1.16
% volatile by volume	90		

10. Stability and Reactivity

Stability

Stable under ordinary conditions of use and storage.

Conditions to Avoid

Heat, flames, ignition sources, and incompatibles.

Hazardous Decomposition Products

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

Hazardous Polymerization

Will not occur

Incompatibles

Boric Acid:

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

Tris-Base:

No incompatibility data found.

11. Toxicological Information

Product LD50 Values

UreaGel Complete Buffer	Oral Rat LD50 (mg/kg):	91724
UreaGel Complete Buffer	Dermal Rabbit LD50 (mg/kg):	Not available

Component Cancer List Status

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

12. Ecological Information

Boric Acid

The EC50/48-hour values for daphnia with boric acid are over 100 mg/l. This material may be toxic to aquatic life..

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 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 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.

16. Other Information

NFPA Codes: Health 1 Flammability 0 Reactivity 0

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