

Material Safety Data Sheet

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY:

Identification Of The Substance/Preparation:

Trade Name: AccuGENE® Tris-Borate – EDTA buffer 1X, 5X, and 10X

Chemical Name: Aqueous Solution

Synonym: TBE Buffer

Canada PIN: None

Use Of The Substance: For R&D/experimental use only

Company Identification:

Lonza Rockland, Inc.

191 Thomaston Street

Rockland, ME 04841

USA

Business Telephone: (207) 594-3402

Emergency Telephone: 703-527-3887 (US: 800-424-9300)

SECTION 2 - HAZARDS IDENTIFICATION:

Emergency Overview: Aqueous Solution. May cause irritation to eyes, skin, and upper respiratory system. The hazards of this product have not been fully investigated. Minimize contact.

Health Effects:

Inhalation: May cause irritation to upper respiratory tract if inhaled

Skin: May cause skin irritation or burns. Symptoms may include redness, rash, and itching.

Eyes: May cause irritation to eyes.

Ingestion: May cause harmful if swallowed.

Chronic Effects/Target Organ Effects: None known

Medical Conditions Aggravated By Exposure: None known

Environmental Effects: None known

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS:

<u>Components</u>	<u>EINECS #</u>	<u>CAS #</u>	<u>Weight%</u>	<u>EU Classification</u>
2-Amino-2(hydroxymethyl)-1,3-propanediol	201-064-4	77-86-1	≤10.78	Xi; R36/37/38
Boric Acid		10043-35-3	≤5.50	Not classified as dangerous.

SECTION 4 - FIRST AID MEASURES:

Inhalation: Follow standard care for a respiratory emergency as necessary. If symptoms are experienced, remove source of contamination or move victim to fresh air. Obtain medical advice if symptoms persist.

Skin: Follow standard care for skin contact as needed. Remove contaminated clothing, shoes, and leather goods, flush with lukewarm gently flowing water for at least 15 minutes. If irritation persists, repeat flushing. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse.

Eye: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 – 20 minutes while holding eyelid(s) open. If contact lenses are present, do not delay irrigation or attempt to remove lens. Take care to prevent chemical or contaminate water from getting into unaffected eye. Obtain medical attention if irritation persists

Ingestion: If swallowed, get medical attention immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE FIGHTING MEASURES:

Extinguishing Media: Dry chemical, fire-fighting foam, water spray, or carbon dioxide based on surrounding materials.

Special Exposure Hazards: This product is water-based. Negligible fire hazard when exposed to heat/flame.

Special Protective Equipment: Wear approved pressure-demand self-contained breathing apparatus and full protective gear.

Hazardous Decomposition: Burning may produce toxic fumes

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SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Personal Precautions: Prevent skin/eye contact. Use personal protective equipment as needed. Isolate spill area, preventing entry by unauthorized persons.

Environmental Precautions: Minimize entry of material into sewers and drainage systems. Refer to permit discharge limitations and local requirements if applicable

Methods For Cleaning Up: Clean up spills immediately, observing precautions in the material safety data sheet and label. Use absorbent materials if needed and dispose into a chemical waste container if appropriate

SECTION 7 - HANDLING AND STORAGE:

Handling: Use with adequate ventilation or chemical fume hood as necessary or desired. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Follow all MSDS/label precautions. Follow same precautions for packaging that may contain product residues. Avoid contact with skin and eyes.

Storage: Keep container closed when not in use. Store at 18 to 24°C in original container.

Specific Uses: For R&D/experimental use only

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION:

Exposure Limit Values:

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH
2-Amino-2(hydroxymethyl)-1,3-propanediol	None Est.	None Est.	None Est.
Boric Acid	None Est.	None Est.	None Est.

Exposure Controls: Use process enclosures, local exhaust ventilation, or other engineering controls as needed.

Respiratory Protection: Use an approved air-purifying respirator as needed. Consult with respirator manufacturer to determine respirator selection, use, and limitations.

Eye/Face Protection: Use safety glasses with side shields. Where contact with the eyes is likely through splash or spray, use chemical goggles.

Skin/Hand Protection: Use chemical glove. Use clean protective body covering clothing as needed to minimize contact with clothing and skin.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Colorless aqueous liquid

Odor: None

Flash point: Not available

Viscosity: Not available.

Solubility: Not available.

Density (water = 1): .. Not available.

Partition coefficient: . Not available.

Boiling point: 100°C

Melting point: Not available.

pH: 8.2

% Volatiles: 80% Water

SECTION 10 - STABILITY AND REACTIVITY:

Stability: Stable.

Hazardous Decomposition Products: Burning may product Toxic Fumes

SECTION 11 - TOXICOLOGICAL INFORMATION:

Skin Contact: Boric acid: mildly irritating (human) RTECS, 1998

Skin Absorption: Subcutaneous

Inhalation: No Data Available

Ingestion: Tris buffer: LD50 = 5900 mg/kg (rat) RTECS, 1998

Boric acid: LD50 = 2660 mg/kg (rat) RTECS, 1998

Eye Contact: No data available

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Acute Effects from Overexposure: This product may be harmful if swallowed and is expected to be irritating to the eyes, skin and respiratory system. Boric acid can cause gastrointestinal distress, liver or kidney damage, shock, convulsions, coma and death in acute exposure at high doses.

Chronic Effects from Overexposure: No data available for the formulation. Boric acid has selectively damaged the testes, sperm production and fertility in rats and dogs at high doses in feeding studies.

SECTION 12 - ECOLOGICAL INFORMATION:

Ecotoxicity: No Data Available

Mobility: Not available

Persistence And Degradability: Not available

Bioaccumulative Potential: Not available

SECTION 13 - DISPOSAL CONSIDERATIONS:

Dispose of unused product, residues, and containers according to local, regional, state, and national regulations.

SECTION 14 - TRANSPORT INFORMATION:

Not expected to be hazardous for transport

SECTION 15 - REGULATORY INFORMATION:

US Regulations:

This product meets the following SARA 311/312 hazard categories: none

This product contains the following SARA 302 Extremely Hazardous Substances: none.

This product contains the following SARA 313 Toxic Chemicals: none.

This product contains the following CERCLA Hazardous Substances: none.

Components of this product are listed on the TSCA inventory.

EU Regulations:

This preparation does not meet the dangerous preparations classification criteria under 1999/45/EC.

Components of this product are listed on EINECS.

Canadian Regulations:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and it contains the information required by the CPR.

This product meets WHMIS classification criteria D2B.

Components of this product are listed on the DSL.

SECTION 16 - OTHER INFORMATION:

NFPA/HMIS Ratings: Health = 1; Fire = 0; Reactivity = 0; NFPA/Special = None

Other Information: None

R-phrases used in section 3, but not listed section 15

R36/37/38: Irritating to eyes, respiratory system and skin

MSDS Revisions: April 2008, Revision 4

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