Material Safety Data Sheet

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

Identification Of The Substance/Preparation:

Trade Name: AccuGENE® 1M Tris Solutions, pH 7.2, 7.4 and 8.0
Chemical Name: Aqueous solution
Synonym: Tris base buffer
Canada PIN: None

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

Company Identification:

Lonza Rockland, Inc.
191 Thomaston Street
Rockland, ME 04841-2994
USA
Business Telephone: (207) 594-3400
Emergency Telephone: 703-527-3887 (US: 800-424-9300)

SECTION 3 - HAZARDS IDENTIFICATION:

Emergency Overview: Clear colorless liquid. Can cause irritation to eyes, skin, and upper respiratory system. Note: This product is formulated with hydrochloric acid but it is supplied in a pH neutral range.

Health Effects:

Inhalation: Mists can cause irritation to the upper respiratory system. Symptoms may include coughing and scratchy throat.
Skin: Can cause irritation. Symptoms may include redness, rash, and itching.
Eyes: Can cause eye irritation. Symptoms may include redness, tearing, and pain.
Ingestion: May cause nausea and discomfort.
Chronic Effects/Target Organ Effects: None known
Medical Conditions Aggravated By Exposure: None known

Environmental Effects: None known

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS:

Components	EINECS #	CAS #	Weight%	EU Classification
2-amino-2-(hydroxymethyl)-1,3-propanediol (TRIS)	201-064-4	77-86-1	18-20	Xi; R36/37/38
hydrochloric acid	231-595-7	7647-01-0	3-5	C: R34; Xi: R37

SECTION 4 - FIRST AID MEASURES:

Inhalation: Follow standard care for a respiratory emergency as necessary. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Skin: Follow standard care for skin contact as needed. Immediately wash thoroughly with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms develop. Wash clothing and shoes before reuse, or discard in a manner that limits further exposure.

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately 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 for surrounding materials.
Special Exposure Hazards: This product is water-based. Under fire conditions the organic residues remaining after the water evaporates are expected to burn generating toxic and irritating gases and smoke. Evacuate area and fight fire from safe distance.
Special Protective Equipment: Wear approved pressure-demand self-contained breathing apparatus and full protective gear.

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 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.

SECTION 7 - HANDLING AND STORAGE:

Handling: Use with adequate ventilation 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 tightly closed when not in use. Store at 18-24°C.
Specific Uses: For R&D/experimental use only

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION:

Exposure Limit Values: Hydrochloric acid: OSHA PEL-C: 5 ppm; ACGIH TLV-C: 2 ppm.
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. Where contact with the eyes is likely, use chemical goggles.
Skin/Hand Protection: Use chemical gloves as needed. Use clean protective body covering clothing as needed to minimize contact with clothing and skin.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: ……..	Clear or colorless aqueous solution
Odor: ……	None
Flash Point: …….	Not available
Viscosity: ……	Not available
Solubility: ……	Miscible in water
Density (water = 1): ..	1.020
Partition Coefficient: .	Not available
Boiling Point: ……..	~100°C
Melting Point: …….	Not available
pH: ……..……	7~9
Other: …….	Not available

SECTION 10 - STABILITY AND REACTIVITY:

Stability: Stable.
Conditions To Avoid: Avoid contact with strong oxidizers.
Materials To Avoid: Avoid contact with strong oxidizers.
Hazardous Decomposition Products: Oxides of carbon and nitrogen.

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SECTION 11 - TOXICOLOGICAL INFORMATION:

Hydrochloric acid: Inhalation LC50: 3124 ppm/1H (rat); Oral LD50: 700 mg/kg (rat); Dermal LD50: >5010 mg/kg (rabbit)
2-Amino-2-(hydroxymethyl)-1,3-propanediol (TRIS): Oral LD50: 5,900 mg/kg (rat)

SECTION 12 - ECOLOGICAL INFORMATION:

Ecotoxicity: Not 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: acute.
This product contains the following SARA 302 Extremely Hazardous Substances: none.
This product contains hydrochloric acid, a toxic chemical subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
This product contains the following CERCLA Hazardous Substances: hydrochloric acid: 5,000 lbs.
Components of this product are listed on the TSCA inventory.
EU Regulations:
This preparation meets the following dangerous preparations classification criteria under 1999/45/EC:
Xi: R36/37/38: Irritating to eyes, respiratory system and skin.
The following safety phrases apply:
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36: Wear suitable protective clothing.
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 (note: this product is supplied in a neutral pH range). Components of this product are listed on the DSL.

SECTION 16 - OTHER INFORMATION:

NFPA/HMIS Ratings: Health = 2; Fire = 1; Reactivity = 0; NFPA/Special = None
Other Information:
R-phrases used in section 2, but not listed section 15:
R34: Causes burns.
R37: Irritating to respiratory system.
MSDS Revisions: May 2008: Rev. 2.0

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