

Bioland Scientific LLC

Material Safety Data Sheet

Version 1.1

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name 20xTBS Buffer

Catalog Number TBS04
Brand Bioland Chemicals

Company Bioland Scientific LLC
14925 Paramount Blvd., Suite C
Paramount, CA 90723
USA
1-562-602-8882

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Emergency Phone #

2. HAZARDS IDENTIFICATION

Appearance and Odor: Clear, colorless solution.

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

Tris-Base: CAUSES IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. HARMFUL IF SWALLOWED OR INHALED.

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

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

Tris-Base: CHRONIC DERMATITIS MAY FOLLOW SKIN CONTACT.

Potassium Chloride: IRRITATING TO EYES. HYGROSCOPIC.

Potential Health Effects

	Tris-Base	Potassium Chloride
Inhalation	Causes irritation to the respiratory tract	May cause respiratory tract irritation. Can produce delayed pulmonary edema.
Skin	Causes irritation to the skin	Contact may cause irritation or rash, particularly with moist skin.
Eyes	Causes irritation to the eyes	Potassium chloride is moderate eye irritant. Redness, tearing, possible abrasion can occur.
Ingestion	Causes irritation and reddening to the mucous membranes of the mouth, esophagus, and gastrointestinal tract.	May produce weakness and circulatory problems. May affect heart. In severe cases, ingestion may be fatal.

Signs and Symptoms of Overexposure

	Tris-Base	Potassium Chloride
Inhalation	Coughing, shortness of breath.	Inhalations of high concentrations of dust may cause nasal or lung irritation.
Skin	Redness, itching, and pain.	May cause skin irritation.
Eyes	Redness, itching, and pain.	Causes eye irritation. May cause chemical conjunctivitis.
Ingestion	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.	Large quantities can produce gastrointestinal irritation and vomiting.

	Tris-Base	Potassium Chloride
Reproductive Toxicity	No information found.	No information available.
Teratogenic Effects	No information found.	No information found.
Carcinogenicity	Not listed as a carcinogen by NTP or IARC.	Not listed by ACGIH, IARC, NIOSH, NTP, OR OSHA.
Mutagenicity	No information found.	Unscheduled DNA Synthesis: Oral, rat = 1500 ug/kg.; Mutation in Microorganisms = Mouse, Lymphocyte = 2048 mg/L.; DNA Damage = Hamster, Ovary = 260 mmol/L.; Cytogenetic Analysis: Hamster, Lung = 12 gm/L

Routes of Entry

Tris-Base: Ingestion.

Potassium Chloride: Ingestion, inhalation, skin and eye contact.

Target Organ Statement

Tris-Base: No information available.

Potassium Chloride: No information available.

3. COMPOSTION/INFORMATION ON INGREDIENTS

Component	% Comp.	CAS #	EINECS #	TLV (Units)
Tris-Base	3-6	77-86-1	201-064-4	none established
Potassium Chloride	< 1	7447-40-7	231-211-8	10 mg/m3
Water	78-89	7732-18-5	231-791-2	
Sodium Chloride	8-16	7647-14-5	231-598-3	none established

EEC LABEL SYMBOL AND CLASSIFICATION



R: 36/37/38

Irritating to eyes, respiratory system and skin.

S: 26-36

In case of contact with eyes, rinse immediately with plenty of water, and seek medical advice. Wear suitable protective clothing.

4. FIRST AID MEASURES

Eye contact	Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Skin contact	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.
Ingestion	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

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 face piece operated in the pressure demand or other positive pressure mode.

Hazardous Combustion Products

Highly toxic gases may be involved in fires of this product.

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**

Use absorbent material to collect and contain for salvage or disposal.

Waste Disposal Method

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

Personal Precautions

Wear appropriate protective equipment

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

20 °C

Disposal

Observe all national, state

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Airborne Exposure Limits****Component: Tris-Base**

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): none established

Component: Potassium Chloride

ACGIH Threshold Limit Value (TLV): 10 mg/m³

OSHA Permissible Exposure Limit (PEL): 15 mg/m³

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

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear protective gloves and clean body covering clothing.

Other Control Measures

N.A.

9. PHYSICAL AND CHEMICAL PROPERTIES

Important Health Safety and Environmental Information

Boiling point	104 C	Evaporation rate	N.A.
Melting point	N.A.	Solubility in water	Miscible
Vapor pressure (mmHg)	N.A.	pH	7
Vapor density (Air = 1)	N.A.	Specific gravity (H2O = 1)	1.05
% volatile by volume	0		

10. STABILITY AND REACTIVITY

Stability

Stable under ordinary conditions of use and storage.

Conditions to Avoid

No information found.

Hazardous Decomposition Products

Oxides of the contained metal and halogen, possibly also free, or ionic halogen

Hazardous Polymerization

Will not occur

Incompatibles

Tris-Base:

No incompatibility data found.

Potassium Chloride:

Bromine trifluoride; potassium permanganate plus sulfuric acid.

Water:

No incompatibility data found.

Sodium Chloride:

No incompatibility data

11. TOXICOLOGICAL INFORMATION

Product LD50 Values

TBS 10X

Oral Rat LD50 (mg/kg): 260000

TBS 10X

Dermal Rabbit LD50
(mg/kg):

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Tris-Base	No	No	None
Potassium Chloride	No	No	None
Water	No	No	None
Sodium Chloride	No	No	None

12. ECOLOGICAL INFORMATION

Tris-Base

No information found on either the environmental fate or environmental toxicity of this material.

Potassium Chloride

No information found.

Water

Not applicable.

Sodium Chloride

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 Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Tris-Base	No	No	No	Yes	No
Potassium Chloride	No	No	No	Yes	No
Water	No	No	No	No	No
Sodium Chloride	No	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

EEC LABEL SYMBOL AND CLASSIFICATION



R: 36/37/38

Irritating to eyes, respiratory system and skin.

S: 26-36

In case of contact with eyes, rinse immediately with plenty of water, and seek medical advice. Wear suitable protective clothing.

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 the 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.

End of Safety Data Sheet