

BIO BASIC INC.
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MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

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DATE UPDATED: SEPTEMBER 12, 2014

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

Product Name TBE Buffer, 10X Powder
Product Code(s) A0024
Recommended Use For Further Manufacturing Use Only
Not for Human or Animal Drug Use

SECTION 2. ----- HAZARDS IDENTIFICATION -----

GHS – Classification

Classification Skin Irritant 2 Eye Irritant 2

Signal Word Warning



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

Precautionary Statements P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302+ P352 - IF ON SKIN: Wash with plenty of soap and water P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
Tris hydroxymethyl aminomethane	EEC No. 201-064-4	Not available	77-86-1	60-65	-
Boric acid	233-139-2	Not available	10043-35-3	0-5	-
EDTA,disodium dihydrate	-	Not available	6381-92-6	30-35	-

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. If breathing becomes difficult, give oxygen.
Ingestion	Clean mouth with water and afterwards drink plenty of water.
Notes to Physician	Treat symptomatically.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties	Not flammable.
Flash Point	Not determined
Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or regular foam.
Hazardous Combustion Products	Carbon oxides, Nitrogen oxides (NO _x).
<u>Explosion Data</u>	
Sensitivity to Mechanical Impact	Not sensitive.
Sensitivity to Static Discharge	Not sensitive.
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions	Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation.
Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Cleaning Up	Sweep up and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

SECTION 7. ----- HANDLING AND STORAGE-----

Handling	Handle in accordance with good industrial hygiene and safety practice.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic. Protect from moisture.
Incompatible Products	Strong oxidizing agents.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - -

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric acid 10043-35-3	= 6 mg/m ³ STEL TWA: 2 mg/m ³		
EDTA, disodium dehydrate 6381-92-6			
Tris 77-86-1			

Engineering Measures

Showers
Eyewash stations
Ventilation systems.

Personal Protective Equipment

Eye/Face Protection

Safety glasses with side-shields. Avoid contact with eyes.

Skin and Body Protection

Wear protective gloves/clothing.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

Appearance

White

Odor

No information available

Odor Threshold

No information available

Decomposition Temperature °C

No information available

Freezing Point

No information available

Initial Boiling Point

No information available

Physical State

Powder

pH

No data available

Flash Point

Not determined

Autoignition Temperature

No data available

Boiling Point/Range

No data available

Melting Point/Range

No data available

Flammability Limits in Air

Upper No data available **Lower** No data available

Explosive Properties

No information available

Oxidizing Properties

No information available

Evaporation Rate

No data available

MMHG @ 37.8 C

No data available

Vapor Density

No data available

Specific Gravity

No data available

Solubility

No information available

Partition Coefficient

No data available

(n-octanol/water)

Viscosity

No information available

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

Stability

Stable under recommended storage conditions.

Incompatible Products

Strong oxidizing agents.

Conditions to Avoid None known based on information supplied.

Hazardous Decomposition Products Carbon oxides. Nitrogen oxides (NOx).

Hazardous Polymerization Hazardous polymerization does not occur.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute Toxicity

Product Information Irritating to eye, skin and respiratory system.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tris hydroxymethyl aminomethane	5900 mg/kg (Rat)		
Boric acid	2660 mg/kg (Rat)	2000 mg/kg (Rabbit)	0.16 mg/L (Rat) 4 h

Chronic Toxicity

Chronic Toxicity Suspected teratogen.

Reproductive Toxicity Product is or contains a chemical which is a known or suspected reproductive hazard.

Target Organ Effects Liver, Kidneys, Central nervous system (CNS).

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Boric acid				EC50 658 - 875 mg/L 48 h EC50 = 115.0 mg/L 48 h

Chemical Name	Log Pow
Boric acid	= -0.757 25 °C

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA Not regulated

DOT Not regulated

SECTION 15. ----- REGULATORY INFORMATION -----**REACH Title VII Restrictions**

No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
Tris hydroxymethyl aminomethane	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Boric acid	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
EDTA,disodium dihydrate	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Tris hydroxymethyl aminomethane 77-86-1 (60-65)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Boric acid 10043-35-3 (0-5)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
EDTA,disodium Dehydrate 6381-92-6 (30-35)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA	Does not Comply
EINECS/ELINCS	Does not Comply
ENCS	Does not Comply
IECSC	Does not Comply
KECL	Does not Comply
PICCS	Does not Comply
AICS	Does not Comply

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Boric acid (H3BO3)		X			

International Regulations

Mexico - Grade

No information available.

Canada

WHMIS Hazard Class

D2B Toxic materials



SECTION 16. ----- OTHER INFORMATION -----

Issuing Date 09-Feb-2009
Revision Date 12-Sept-2014
Revision Note No information available.
Recommended Restrictions No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS