SECTION 1 - CHEMICAL IDENTIFICATION

PRODUCT NAME:	Tris-Borate-EDTA (TBE), 10 X Solutions
RPI CATALOG #:	T32020
SUPPLIER'S NAME:	Research Products International Corp.
SUPPLIERS ADDRESS:	410 N Business Center Drive Mount Prospect, IL 60056
EMERGENCY CONTACT:	1-800-424-9300
OTHER INFORMATION:	847-635-7330

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H303	Acute toxicity, Oral	Category 5
H315	Skin corrosion/irritation	Category 2
H319	Serious eye damage/eye irritation	Category 2
H335	Specific target organ toxicity, single exposure; Respiratory tract irritation	Category 3
H360	Reproductive toxicity	Category 1

2.2 GHS Label elements, including Hazard and Precautionary Statement(s)

Pictogram:



Signal word: **Danger**

Hazard statement(s):

H303	May be harmful if swallowed
H315	Causes skin irritation
H319	Cause Serious Eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn

Precautionary statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash skin thoroughly after handling
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.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see. on this label).
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EINECS Number	Concentration (1X)
Water	7732-18-5	231-791-2	Q. S
Tris(hydroxymethyl)aminomethane	77-86-1	201-064-4	89mM
Boric Acid	10043-35-3	233-139-2	89mM
EDTA, Disodium Salt Dihydrate	6381-92-6	205-358-3	2 mM

SECTION 4 - FIRST-AID MEASURES

4.1 Description of first aid measures
General advice: Consult a doctor and show this safety data sheet.

i. **If inhaled:** Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
ii. **In case of skin contact:** Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
iii. **In case of eye contact:** Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
iv. **If swallowed:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

5.2 Special hazards arising from the substance or mixture: No data available.

5.3 Precautions for fire-fighters: Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

5.4 Further information: No data available

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections: For required PPE see section 8. For disposal see section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling: Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities: Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Keep in a dry place. Store at room temperature.

7.3 Specific end use(s): Use in a laboratory fume hood where possible.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric acid (Solid)	STEL: 6 mg/m^3 TWA: 2 mg/m^3	-	-

ACGIH: American Conference of Governmental Industrial Hygienists.
OSHA: Occupational Safety and Health Administration.
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health.

8.2 Exposure Controls

i. **Appropriate engineering controls:** Use in a fume hood where applicable. Ensure all engineering

measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal protective equipment

i. **Eye/face protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
ii. **Skin protection:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166
iii. **Body Protection:** Wear appropriate protective clothing. Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
iv. **Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
v. **Control of environmental exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid	**Vapor Pressure**	No Data Available
Odor	No Data Available	**Vapor Density**	No Data Available
Odor Threshold	No Data Available	**Relative Density**	No Data Available
pH (1X)	8.15 - 8.45	**Water Solubility**	Very Soluble
Melting / Freezing Point	No Data Available	**Partition Coefficient**	No Data Available
Initial Boiling Point Range	No Data Available	**Auto-Ignition Temperature**	No Data Available
Flash Point	No Data Available	**Decomposition Temperature**	No Data Available
Evaporation Rate	No Data Available	**Viscosity**	No Data Available
Flammability (Solid, Gas)	No Data Available	**Explosive Properties**	No Data Available
Upper / Lower Flammability or Explosive Limits	No Data Available	**Oxidizing Properties**	No Data Available

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.
Hazardous Decomposition Products: Potassium, Acid anhydrides.
Incompatibilities: Potassium, Acid anhydrides.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	LD50 Oral (B	LD50 Dermal	LD50 Inhalation
Boric Acid	2660 mg/kg (Rat)	2000 mg/kg (Rabbit)	0.16 mg/L (Rat)- 4 h

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Fish	Water Flea
Boric Acid (Solid)	Gambusia affinis: LC50: 5600 mg/L/96h	115 - 153 mg/L EC50 48 h

Persistence and degradability/ Bioaccumlative potential: No data available

Mobility

Component	log Pow
Boric acid (Solid)	=-0.757

Results of PBT and vPvB assessment: No data available
Other adverse effects: No data available
Chronic Toxicity: There are no known carcinogenic chemicals in this product

SECTION 13 - DISPOSAL CONSIDERATIONS

Hazardous disposal required. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of containers and unused contents in accordance with federal, state and local requirements.

SECTION 14 - TRANSPORT INFORMATION

DOT	TDG	IATA	IMDG/IMO
Not regulated	Not regulated	Not regulated	Not regulated

SECTION 15 - REGULATORY INFORMATION

USA FEDERAL REGULATION

SARA 311/312 HAZARDOUS CATEGORIZATION

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

TSCA 12(b)/ SARA 313/ OSHA/ CERCLA/ Clean Water Act/ Clean Air Act: Not Applicable

California Proposition 65: This product does not contain any Proposition 65 chemicals.

HMIS Rating

Health hazard	Chronic Health Hazard	Flammability	Physical Hazard
1	*	0	0

NFPA Rating

Health Hazard	Fire Hazard	Reactivity Hazard
1	0	0

US DEPARTMENT OF TRANSPORTATION

REPORTABLE QUANTITY (RQ)	DOT MARINE POLLUTANT	DOT SEVER MARINE POLLUTANT
No	No	No

U.S. DEPARTMENT OF HOMELAND SECURITY: This product does not contain any DHS chemicals.

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

This SDS complies with the requirements of Regulation (EC)

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Research Products International Corp. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. This product is sold for laboratory research and development purposes use only.