



# SAFETY DATA SHEET

Issuing Date 09-Jun-2010

Revision Date 08-Jan-2016

Revision Number 2

## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Name** TBE Dry Powder Buffer

### Other means of identification

**Product Code(s)** 0478

**Synonyms** No information available

### Recommended use of the chemical and restrictions on use

**Recommended Use** For Further Manufacturing Use Only.

**Uses advised against** Not for Human or Animal Drug Use

### Details of the supplier of the safety data sheet

<b>Company Address</b>	<b>Manufacturer Address</b>
VWR International, LLC	VWR International, LLC
Radnor Corporate Center	28600 Fountain Parkway
100 Matsonford Road	Solon, Ohio 44139
Radnor, PA 19087-8660	
<b>Company Phone Number</b>	1-800-448-4442
<b>E-mail Address</b>	info@amresco-inc.com

### Emergency Telephone Number

**Emergency Telephone Number** Chemtrec 1-800-424-9300

## 2. HAZARDS IDENTIFICATION

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3

### Label elements

#### **Emergency Overview**

#### **Danger**

#### **Hazard statements**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H330 - Fatal if inhaled

H360 - May damage fertility or the unborn child

May cause respiratory irritation. May cause drowsiness or dizziness

**Appearance** White**Physical State** Powder**Odor** No information available**Precautionary Statements - Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Wear respiratory protection  
 Wash face, hands and any exposed skin thoroughly after handling

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
 Specific treatment is urgent (see .? on this label)  
 Specific treatment (see .? on this label)  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of water and soap  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash it before reuse  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Immediately call a POISON CENTER or doctor

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not regulated

**Other Information**

- May be harmful if swallowed
- Toxic to aquatic life with long lasting effects
- Harmful to aquatic life

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	EC No.	Weight %	Trade Secret
Tris (hydroxymethyl)aminome thane	77-86-1	201-064-4	60-65	Not applicable
Boric acid (H3BO3)	10043-35-3	233-139-2	20-40	Not applicable
EDTA	60-00-4	200-449-4	1-5	Not applicable

### 4. FIRST AID MEASURES

**First Aid Measures**

<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Rinse mouth.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products** Carbon oxides. Nitrogen oxides (NOx).

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**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.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal protection** Ensure adequate ventilation, especially in confined areas.

**Environmental Precautions**

**Environmental Precautions** See Section 12 for additional Ecological information.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

## 7. HANDLING AND STORAGE

**Precautions for Safe Handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Hygroscopic.

Protect from moisture.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic. Protect from moisture.

**Incompatible Products** Strong oxidizing agents.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-
Boric acid (H3BO3) 10043-35-3	6 mg/m <sup>3</sup> STEL (inhalable fraction, listed under Borate compounds, inorganic) TWA: 2 mg/m <sup>3</sup>	-	-
EDTA 60-00-4	-	-	-

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Avoid contact with eyes. Safety glasses with side-shields.

**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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Physical State</b>	Powder	<b>Odor</b>	No information available
<b>Appearance</b>	White	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
pH	No information available		
Melting point/freezing point			
Boiling Point/Range	No information available		
Flash Point (High in °C)	No information available		
Evaporation Rate	No information available		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	No information available		
Vapor Density	No information available		
Specific Gravity	No information available		

<b>Water Solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Kinematic viscosity</b>	No information available
<b>Dynamic viscosity</b>	No information available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**Other Information**

<b>Softening Point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content</b>	No information available
<b>Density</b>	No information available
<b>Bulk Density</b>	No information available

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to Avoid**

Protect from moisture.

**Incompatible Materials**

Strong oxidizing agents.

**Hazardous Decomposition Products**

Carbon oxides. Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

<b>Product Information</b>	Irritating to eye, skin and respiratory system
<b>Inhalation</b>	May be fatal if inhaled.
<b>Eye Contact</b>	Severely irritating to eyes.
<b>Skin Contact</b>	Irritating to skin.
<b>Ingestion</b>	There is no data available for this product.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tris (hydroxymethyl)aminomethane 77-86-1	= 5900 mg/kg ( Rat )	-	-
Boric acid (H3BO3) 10043-35-3	= 2660 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 0.16 mg/L ( Rat ) 4 h
EDTA 60-00-4	= 1700 mg/kg ( Rat )	-	-

**Information on toxicological effects****Symptoms** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.  
**Mutagenic Effects** No information available.  
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-	-
Boric acid (H3BO3) 10043-35-3	-	Group 2A	-	-
EDTA 60-00-4	-	-	-	-

**Reproductive Toxicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organ Effects** Liver, Kidneys, Central nervous system (CNS).  
**Aspiration hazard** No information available.

#### Numerical measures of toxicity - Product Information

**Unknown Acute Toxicity** 0 % of the mixture consists of ingredient(s) of unknown toxicity  
**The following values are calculated based on chapter 3.1 of the GHS document** . mg/kg mg/L

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

63.7% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Toxicity to Fish	Crustacea
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-
Boric acid (H3BO3) 10043-35-3	-	1020: 72 h Carassius auratus mg/L LC50 flow-through	115 - 153: 48 h Daphnia magna mg/L EC50
EDTA 60-00-4	1.01: 72 h Desmodosmus subspicatus mg/L EC50	44.2 - 76.5: 96 h Pimephales promelas mg/L LC50 static 34 - 62: 96 h Lepomis macrochirus mg/L LC50 static	113: 48 h Daphnia magna mg/L EC50 Static

#### Persistence and Degradability

No information available.

#### Bioaccumulation/Accumulation

No information available.

Chemical Name	Partition coefficient
Tris (hydroxymethyl)aminomethane 77-86-1	-
Boric acid (H3BO3) 10043-35-3	-0.757
EDTA 60-00-4	-

**Other Adverse Effects** No information available

## 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

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

**Contaminated Packaging** Do not re-use empty containers.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Tris	-	-	-	-

(hydroxymethyl)aminomethane 77-86-1				
Boric acid (H3BO3) 10043-35-3	-	-	-	-
EDTA 60-00-4	-	-	-	-

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-	-
Boric acid (H3BO3) 10043-35-3	-	-	-	-
EDTA 60-00-4	-	-	-	-

Chemical Name	California Hazardous Waste Status
Tris (hydroxymethyl)aminomethane 77-86-1	-
Boric acid (H3BO3) 10043-35-3	Toxic
EDTA 60-00-4	-

**14. TRANSPORT INFORMATION**

**DOT** Not regulated

**IATA** Not regulated

**15. REGULATORY INFORMATION**

**International Inventories**

- TSCA Complies
- DSL/NDSL Complies
- EINECS/ELINCS Complies
- ENCS Complies
- IECSC Complies
- KECL Complies
- PICCS Complies
- AICS Complies

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

**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.

Component	SARA 313 - Threshold Values %
-----------	-------------------------------

Tris (hydroxymethyl)aminomethane 77-86-1 ( 60-65 )	-
Boric acid (H3BO3) 10043-35-3 ( 20-40 )	-
EDTA 60-00-4 ( 1-5 )	-

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-	-
Boric acid (H3BO3) 10043-35-3	-	-	-	-
EDTA 60-00-4	-	-	-	-

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-
Boric acid (H3BO3) 10043-35-3	-	-	-
EDTA 60-00-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

Chemical Name	California Prop. 65
Tris (hydroxymethyl)aminomethane - 77-86-1	-
Boric acid (H3BO3) - 10043-35-3	-
EDTA - 60-00-4	-

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Tris (hydroxymethyl)aminomethane 77-86-1	-	-	-
Boric acid (H3BO3) 10043-35-3	-	-	-
EDTA 60-00-4	X	-	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not regulated

**16. OTHER INFORMATION**



**Issuing Date** 09-Jun-2010

**Revision Date** 08-Jan-2016

**Revision Note**  
No information available

**Disclaimer**

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

**End of Safety Data Sheet**