

Version 3.0  
Date revised: 4/26/2019

# SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

Product Name: PBS 10X Product Number: CL-253

### 1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

### 1.3 Details of the Supplier of the Safety Data Sheet

**Manufacturer**

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30036  
(404) 699-2121  
(800) 526-3867  
info@nationaldiagnostics.com

### 1.4 Emergency Telephone Number

ChemTel Inc.

Contract number MIS8894340

1-800 255-3924 (United States, Canada, Puerto Rico & US  
Virgin Islands)

01-800-099-0731 (Mexico)

400-120-0751 (China)

000-800-100-4086 (India)

1-300-954-583 (Australia)

0-800-591-6042 (Brazil)

+1-813-255-3924 (All other regions)

## **SECTION 2 - HAZARDS IDENTIFICATION**

### **2.1 Classification of the Substance or Mixture**

Not a hazardous substance or mixture according to regulation  
(EC) No. 1272/2008.

### **2.2 Label Elements**

This product has no labeling elements associated with EC  
directives or respective national laws.

### **2.3 Other Hazards**

None found.

## **SECTION 3 - COMPOSITION/ INFORMATION ON INGREDIENTS**

### **3.2 Mixture**

Chemical Names/Description

Aqueous buffer

Component List

<b>Component</b>	<b>% Com</b>	<b>CAS #</b>	<b>EC #</b>	<b>1278/2008 Classificati</b>
Potassium Chloride	1	7447-40-7	231-211-8	N.A.
Sodium Chloride	7.5	7647-14-5	231-598-3	N.A.
Dipotassium Phosphate	40.5	7758-11-4	231-834-5	N.A.
Sodium Phosphate	1	7558-79-4	231-448-7	N.A.

## **SECTION 4 - FIRST AID MEASURES**

### **4.1 Description of First Aid Measures**

#### **Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### **Ingestion**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

#### **Skin**

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.

#### **Eyes**

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## **4.2 Most Important Symptoms and Effects, Both Acute and Delayed**

### **Inhalation**

**Potassium Chloride:**

**Inhalations of high concentrations of dust may cause nasal or lung irritation.**

**Sodium Chloride:**

**No information found.**

**Dipotassium Phosphate:**

**Not expected to be a health hazard by inhalation.**

**Sodium Phosphate:**

**Not expected to be a health hazard by inhalation.**

### **Ingestion**

**Potassium Chloride:**

**Large quantities can produce gastrointestinal irritation and vomiting.**

**Sodium Chloride:**

**No information found.**

**Dipotassium Phosphate:**

**Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, cardiac effects and central nervous system effects.**

**Sodium Phosphate:**

**No data found.**

### **Skin**

**Potassium Chloride:**

**May cause skin irritation.**

Sodium Chloride:

No information found.

Dipotassium Phosphate:

No adverse effects expected.

Sodium Phosphate:

No adverse effects expected

**Eyes**

Potassium Chloride:

Causes eye irritation. May cause chemical conjunctivitis.

Sodium Chloride:

No information found.

Dipotassium Phosphate:

Pain and redness.

Sodium Phosphate:

Pain and redness

### **4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed**

Unknown/not applicable

## **SECTION 5 - FIRE FIGHTING MEASURES**

### **5.1 Extinguishing media**

Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide.

### **5.2 Special Hazards Arising from the Substance/ Mixture**

Hazardous Combustion Products

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

#### **Hazardous Decomposition Products**

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

#### **Hazardous Polymerization**

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### **5.3 Advice for Firefighters**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### **5.4 Further Information**

No data available.

## **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal Precautions**

Wear appropriate protective equipment as specified in Section 8.

### **6.2 Environmental Precautions**

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

### **6.3 Methods and Materials for Containment and Cleaning Up**

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

## 6.4 References to Other Sections

For disposal information see Section 13. For protective clothing and equipment see Section 8.

# SECTION 7 - HANDLING AND STORAGE

## 7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

## 7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area.

### Incompatibles

Potassium Chloride:

Bromine trifluoride; potassium permanganate plus sulfuric acid.

Sodium Chloride:

No incompatibility data found.

Dipotassium Phosphate:

No incompatibility data found.

Sodium Phosphate:

Acids, alkaloids, lead acetate, antipyrine, chloral hydrate, resorcinol and pyrogallol.

## 7.3 Specific End Uses

Investigational research by professional users

# **SECTION 8 - EXPOSURE CONTROLS/ PERSONAL PRECAUTIONS**

## **8.1 Control Parameters**

**Component: Potassium Chloride**

**ACGIH Threshold Limit Value (TLV): 10 mg/m<sup>3</sup>**

**OSHA Permissible Exposure Limit (PEL): 15 mg/m<sup>3</sup>**

**Component: Sodium Chloride**

**ACGIH Threshold Limit Value (TLV): none established**

**OSHA Permissible Exposure Limit (PEL): None established**

**Component: Dipotassium Phosphate**

**ACGIH Threshold Limit Value (TLV): 10 mg/m<sup>3</sup> total dust**

**OSHA Permissible Exposure Limit (PEL): 15 mg/m<sup>3</sup> total dust**

**Component: Sodium Phosphate**

**ACGIH Threshold Limit Value (TLV): None established**

**OSHA Permissible Exposure Limit (PEL): None established**

## **8.2 Exposure Controls**

### **Engineering Controls**

**A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne 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.

# SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

## 9.1 Information on Basic Physical & Chemical Properties

<b>a. Appearance</b>	Clear,	<b>b. Odor</b>	None
<b>c. Odor Threshold</b>	N.A.	<b>d. pH</b>	7
<b>e. Melting/</b>		<b>-5 f. Boiling point</b>	106
<b>g. Flash Point (°C)</b>	N.A.	<b>h. Evaporation</b>	N.A.
<b>i. Flammability</b>	N.A.	<b>j. Upper/Lower Flammability or</b>	N.A.
<b>k. Vapor Pressure</b>	N.A.	<b>l. Vapor Density</b>	N.A.
<b>m. Relative</b>	N.A.	<b>n. Water Solubility</b>	Miscible
<b>o. Partition Coefficient n-</b>	Mixture	<b>p. Autoignition Temperature (°C)</b>	N.A.
<b>q. Decomposition Temperature (°C)</b>	Not applicable.	<b>r. Viscosity</b>	No data available.
<b>s. Explosive</b>	N.A.	<b>t. Oxidizing</b>	Not an

# **SECTION 10 - STABILITY AND REACTIVITY**

## **10.1 Reactivity**

Non reactive under normal conditions of use.

## **10.2 Chemical Stability**

Stable under recommended conditions of use and storage.

## **10.3 Possibility of Hazardous Reactions**

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

## **10.4 Conditions to Avoid**

No information found.

## **10.5 Incompatible Materials**

Potassium Chloride:

Bromine trifluoride; potassium permanganate plus sulfuric acid.

Sodium Chloride:

No incompatibility data found.

Dipotassium Phosphate:

No incompatibility data found.

Sodium Phosphate:

Acids, alkaloids, lead acetate, antipyrine, chloral hydrate, resorcinol and pyrogallol.

## **10.6 Hazardous Decomposition Products**

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

# SECTION 11 - TOXICOLOGICAL INFORMATION

## Product LD50 Values

Oral Rat LD50 (mg/kg): 260000

Dermal Rabbit LD50 (mg/kg): No data

## Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Potassium Chloride	No	No	None
Sodium Chloride	No	No	None
Dipotassium Phosphate	No	No	None
Sodium Phosphate	No	No	None

## Potential Health Effects

### Inhalation

Potassium Chloride

May cause respiratory tract irritation. Can produce delayed pulmonary edema.

Sodium Chloride

May cause respiratory tract irritation.

Dipotassium Phosphate

Not expected to be a health hazard by inhalation.

Sodium Phosphate

No data found.

### Ingestion

### Potassium Chloride

May produce weakness and circulatory problems. May affect heart. In severe cases, ingestion may be fatal.

### Sodium Chloride

Ingestion of large amounts may cause gastrointestinal irritation. Ingestion of large amounts may cause nausea and vomiting, rigidity or convulsions. Continued exposure can produce a coma, dehydration and internal organ congestion.

### Dipotassium Phosphate

Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systematic effects. Some adverse health effects have occurred. The toxicity of phosphates is because of their ability to sequester calcium. Acute potassium intoxication by mouth is rare because large single doses usually induce vomiting and because in the absence of pre-existing kidney damage, potassium is rapidly excreted. Potassium poisoning can result in heart effects.

### Sodium Phosphate

Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systematic effects. Some adverse health effects have occurred. The toxicity of phosphates is because of their ability to sequester calcium.

### Skin

#### Potassium Chloride

Contact may cause irritation or rash, particularly with moist skin.

#### Sodium Chloride

May cause skin irritation.

#### Dipotassium Phosphate

No adverse effects expected.

Sodium Phosphate

No data available.

## Eyes

Potassium Chloride

Potassium chloride is moderate eye irritant. Redness, tearing, possible abrasion can occur.

Sodium Chloride

May cause eye irritation.

Dipotassium Phosphate

No adverse effects expected but may cause mechanical irritation.

Sodium Phosphate

No data available

## Carcinogenicity

Potassium Chloride

Not listed by ACGIH, IARC, NIOSH, NTP, OR OSHA.

Sodium Chloride

Not listed by ACGIH, IARC, NIOSH, NTP or OSHA.

Dipotassium Phosphate

Not listed as a known or anticipated carcinogen by NTP or IARC.

Sodium Phosphate

Not listed as a known or anticipated carcinogen by NTP or IARC.

## Mutagenicity

Potassium Chloride

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

Sodium Chloride

See actual entry in RTECS for complete information.

Dipotassium Phosphate

No information found.

Sodium Phosphate

No information found.

## **Reproductive Toxicity**

Potassium Chloride

No information available.

Sodium Chloride

No data available.

Dipotassium Phosphate

No information found.

Sodium Phosphate

## **Teratogenic Effects**

Potassium Chloride

No information available.

Sodium Chloride

No information found.

Dipotassium Phosphate

No information found.

Sodium Phosphate

No information found.

## **Routes of Entry**

Potassium Chloride

Ingestion, inhalation, skin and eye contact.

Sodium Chloride

No information found.

Dipotassium Phosphate

No information found.

Sodium Phosphate

No information found.

## **Target Organ Statement**

Potassium Chloride

Sodium Chloride

No information found.

Dipotassium Phosphate

Persons with impaired kidney function may be more susceptible to the effects of the substance.

Sodium Phosphate

No information found.

# **SECTION 12 - ECOLOGICAL INFOMATION**

## **12.1 Toxicity**

**COMPONENT: Potassium Chloride**

	<b>Vertebrate</b>	<b>Invertebrat</b>	<b>Algae</b>	<b>Microorga</b>
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, Fathead minnow)	EC50 (48hr, Daphnia) 440-880	EC50 (72hrs) >100mg/L	EC50 (3hr) >1000mg/L

	<b>Birds</b>	<b>Arthropod</b>	<b>Plants</b>	<b>Microorga</b>
Terrestrial Environment Toxicity	No data	No data	No data	No data

### COMPONENT: Sodium Chloride

	<b>Vertebrates</b>	<b>Invertebrat</b>	<b>Algae</b>	<b>Microorga</b>
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hrs, bluegill)	LC50 (48 hr, daphnia) 874mg/L	LC50 (120hrs) 2430 mg/L	No data

	<b>Birds</b>	<b>Arthropod</b>	<b>Plants</b>	<b>Microorga</b>
Terrestrial Environment Toxicity	LD50 (house sparrow)	No data	IC50 (7 days) 500-1950m	No data

### COMPONENT: Dipotassium Phosphate

	<b>Vertebrate</b>	<b>Invertebrat</b>	<b>Algae</b>	<b>Microorga</b>
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr trout) >100mg/l	EC50 (48hr, daphnia) >100mg/l	EC50 > 100mg/l	EC50 >1000mg/l



	<b>Birds</b>	<b>Arthropod</b>	<b>Plants</b>	<b>Microorga</b>
Terrestrial Environment Toxicity	No data	No data	No data	No data

## COMPONENT: Sodium Phosphate

	<b>Vertebrate</b>	<b>Invertebrat</b>	<b>Algae</b>	<b>Microorga</b>
Aquatic Toxicity (ppm unless	LC50 (96hr, trout)	LC50 (zebra	EC50 > 100mg/l	EC50 > 1000mg/l

	<b>Birds</b>	<b>Arthropod</b>	<b>Plants</b>	<b>Microorga</b>
Terrestrial Environment Toxicity	No data	No data	No data	No data

## 12.2 Persistence and Degradability

Potassium Chloride

No data

Sodium Chloride

No data

Dipotassium Phosphate

No data

Sodium Phosphate

No data

## 12.3 Bioaccumulative Potential

Potassium Chloride

No data

Sodium Chloride

No data

Dipotassium Phosphate

No data

Sodium Phosphate

No data

## 12.4 Mobility in Soil

Potassium Chloride

No data

Sodium Chloride

No data

Dipotassium Phosphate

No data

Sodium Phosphate

No data

## 12.5 Results of PBT and vPvB Assessment

Potassium Chloride

No data

Sodium Chloride

Not PBT or vPvB

Dipotassium Phosphate

No data

Sodium Phosphate  
Mineral salt

## 12.6 Other Adverse Effects

Potassium Chloride

None

Sodium Chloride

None

Dipotassium Phosphate

None

Sodium Phosphate

None

## SECTION 13 - DISPOSAL CONSIDERATIONS

### 13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

## SECTION 14 - TRANSPORT INFORMATION

	<b>ADR/RID</b>	<b>IATA</b>	<b>IMO</b>	<b>DOT</b>
<b>14.1 UN</b>	N.A.	N.A.	N.A.	N.A.

<b>14.2 Shipping</b>	Not	Not	Not	Not
<b>14.3 Hazard</b>	N.A.	N.A.	N.A.	N.A.
<b>14.4 Packing</b>	N.A.	N.A.	N.A.	N.A.
<b>14.5 Environmental</b>	N.A.	N.A.	N.A.	N.A.
<b>14.6 Special</b>	N.A.	N.A.	N.A.	N.A.

## SECTION 15 - REGULATORY INFORMATION

### 15.1 Safety, Health and Environmental Regulations/ Legislation Specific for the Substance/Mixture

#### United States

##### TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

##### SARA 311/312 Hazard Categories

<b>Component</b>	<b>Fire</b>	<b>Pressu</b>	<b>Reactivi</b>	<b>Acute</b>	<b>Chroni</b>
Potassium Chloride	No	No	No	Yes	No
Sodium Chloride	No	No	No	Yes	No
Dipotassium Phosphate	No	No	No	Yes	Yes
Sodium Phosphate	No	No	No	No	No

#### Europe

##### EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

## SECTION 16 - OTHER INFORMATION

## Revisional Updates

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.2

10/24/2013 - Released Version 1.0

## NFPA Codes

Health 1 Flammability 0 Reactivity 0

## Dangers

Potassium Chloride

None

Sodium Chloride

None

Dipotassium Phosphate

None

Sodium Phosphate

None

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