

**MSDS****Material Safety Data Sheet**

From: Mallinckrodt Baker, Inc.  
222 Red School Lane  
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-959-2151  
CHEMTREC: 1-800-424-9300

National Response in Canada  
CANUTEC: 613-996-6666

Outside U.S. and Canada  
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

# POTASSIUM PHOSPHATE TRIBASIC

MSDS Number: P6059 --- Effective Date: 11/17/99

## 1. Product Identification

**Synonyms:** Phosphoric acid tripotassium salt; tripotassium phosphate

**CAS No.:** 7778-53-2

**Molecular Weight:** 212.27 (Anhydrous)

**Chemical Formula:** K<sub>3</sub>PO<sub>4</sub> · nH<sub>2</sub>O

**Product Codes:** 7108

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium Phosphate Tribasic	7778-53-2	> 75%	Yes
Potassium Hydroxide	1310-58-3	< 25%	Yes

## 3. Hazards Identification

### Emergency Overview

**POISON! DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.**

### Potential Health Effects

#### Inhalation:

Caustic irritant dust; may cause burns of the mucous membranes and upper respiratory tract. Sneezing or

coughing and breathing difficulties are symptoms.

**Ingestion:**

Caustic alkaline action, possibly harmful to the esophagus and stomach. Abdominal pain, cramping, vomiting or diarrhea may follow ingestion. Potassium salts may also cause cardiac effects.

**Skin Contact:**

Caustic burns may occur on prolonged contact, especially on moist skin. Reddening, soreness or possible damage to the derma may occur.

**Eye Contact:**

Caustic irritant. Pain, tearing and redness are symptoms.

**Chronic Exposure:**

Continued ingestion or absorption of phosphate and potassium can lead to renal disorders and in acute cases, potassium poisoning. The latter can involve circulatory complications, partial paralysis and ulcers of the stomach. Development of a defatting dermatitis on prolonged contact with potassium hydroxide has been reported.

Continued irritation may lead to increased susceptibility to respiratory illness.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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## 5. Fire Fighting Measures

**Fire:**

Not considered to be a fire hazard.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

Use any means suitable for extinguishing surrounding fire.

**Special Information:**

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.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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## 7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and alkalis. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL):  
2 mg/m<sup>3</sup> Ceiling for potassium hydroxide.

- ACGIH Threshold Limit Value (TLV):  
2 mg/m<sup>3</sup> Ceiling for potassium hydroxide.

### **Ventilation System:**

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, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded, a full facepiece respirator with dust/mist filter may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

### **Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### **Eye Protection:**

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

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## 9. Physical and Chemical Properties

### **Appearance:**

White powder.

### **Odor:**

Odorless.

### **Solubility:**

50 grams in 100 grams of water.

### **Specific Gravity:**

2.564 @ 17C/4C

### **pH:**

Strongly alkaline.

### **% Volatiles by volume @ 21C (70F):**

0

### **Boiling Point:**

Not applicable.

### **Melting Point:**

ca. 1340C (ca. 2444F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Phosphorus and potassium oxides.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong acids, aluminum, tin, zinc, chlorinated hydrocarbons, acetone.

**Conditions to Avoid:**

Incompatibles.

## 11. Toxicological Information

For potassium phosphate tribasic: No LD50/LC50 information found relating to normal routes of occupational exposure. For potassium hydroxide: Oral rat LD50: 273 mg/kg; Investigated as a mutagen. Skin Irritation Data (std Draize, 50 mg/24 H): Human, Severe; Rabbit, Severe. Eye Irritation Data(Rabbit, non-std test,1 mg/24 H, rinse): Moderate.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Potassium Phosphate Tribasic (7778-53-2)	No	No	None
Potassium Hydroxide (1310-58-3)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

Potassium Hydroxide: TLm: 80 ppm/Mosquito fish/ 24 hr./ Fresh water

# 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. 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 container and unused contents in accordance with federal, state and local requirements.

# 14. Transport Information

## Domestic (Land, D.O.T.)

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**Proper Shipping Name:** CORROSIVE SOLID, TOXIC N.O.S. (POTASSIUM PHOSPHATE TRIBASIC)  
**Hazard Class:** 8, 6.1  
**UN/NA:** UN2923  
**Packing Group:** III  
**Information reported for product/size:** 12KG

## International (Water, I.M.O.)

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**Proper Shipping Name:** CORROSIVE SOLID, TOXIC N.O.S. (POTASSIUM PHOSPHATE TRIBASIC)  
**Hazard Class:** 8, 6.1  
**UN/NA:** UN2923  
**Packing Group:** III  
**Information reported for product/size:** 12KG

## International (Air, I.C.A.O.)

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**Proper Shipping Name:** CORROSIVE SOLID, TOXIC N.O.S. (POTASSIUM PHOSPHATE TRIBASIC)  
**Hazard Class:** 8, 6.1  
**UN/NA:** UN2923  
**Packing Group:** III  
**Information reported for product/size:** 12KG

# 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient	TSCA	EC	Japan	Australia
Potassium Phosphate Tribasic (7778-53-2)	Yes	Yes	Yes	Yes
Potassium Hydroxide (1310-58-3)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient	Korea	--Canada--		Phil.
		DSL	NDSL	
Potassium Phosphate Tribasic (7778-53-2)	Yes	Yes	No	Yes
Potassium Hydroxide (1310-58-3)	Yes	Yes	No	Yes

POTASSIUM PHOSPHATE TRIBASIC

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Potassium Phosphate Tribasic (7778-53-2)	No	No	No	No
Potassium Hydroxide (1310-58-3)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8(d)
Potassium Phosphate Tribasic (7778-53-2)	No	No	No
Potassium Hydroxide (1310-58-3)	1000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
 SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No  
 Reactivity: No (Mixture / Solid)

**Australian Hazchem Code:** No information found.

**Poison Schedule:** S6

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 2 Flammability: 0 Reactivity: 0

**Label Hazard Warning:**

POISON! DANGER! CORROSIVE. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED.

**Label Precautions:**

- Do not get in eyes, on skin, or on clothing.
- Do not breathe dust.
- Keep container closed.
- Use only with adequate ventilation.
- Wash thoroughly after handling.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No changes.

**Disclaimer:**

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**Prepared by:** Strategic Services Division  
Phone Number: (314) 539-1600 (U.S.A.)