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MSDS Number: **S4754** \* \* \* \* \* *Effective Date: 08/02/07* \* \* \* \* \* *Supersedes: 11/30/04*

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# SODIUM PHOSPHATE DIBASIC HEPTAHYDRATE

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## 1. Product Identification

**Synonyms:** Disodium phosphate heptahydrate; Phosphoric acid, disodium salt, heptahydrate; Disodium hydrogen phosphate, 7-hydrate

**CAS No.:** 7558-79-4 (Anhydrous); 7782-85-6 (Heptahydrate)

**Molecular Weight:** 268.07

**Chemical Formula:** Na<sub>2</sub>HPO<sub>4</sub> 7H<sub>2</sub>O

**Product Codes:**

J.T. Baker: 3803, 3816, 3817, 3824

Mallinckrodt: 1305, 7393, 7827, 7896, 7914

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Sodium Phosphate, Dibasic	7558-79-4	90 - 100%
Yes		

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## 3. Hazards Identification

**Emergency Overview**

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**CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. MAY BE HARMFUL IF SWALLOWED OR INHALED.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

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Health Rating: 2 - Moderate (Life)

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

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**Potential Health Effects**

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**Inhalation:**

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

**Ingestion:**

Phosphates are slowly and incompletely absorbed when ingested, and seldom result in systemic effects. Such effects, however, have occurred. Symptoms may include vomiting, lethargy, diarrhea, blood chemistry effects, heart disturbances and central nervous system effects. The toxicity of phosphates is because of their ability to sequester calcium.

**Skin Contact:**

May cause irritation with redness and pain.

**Eye Contact:**

May cause irritation, redness and pain.

**Chronic Exposure:**

May sequester calcium and cause calcium phosphate deposits in the kidneys. Chronic ingestion or inhalation may induce systemic phosphorous poisoning. Liver damage, kidney damage, jaw/tooth abnormalities, blood disorders and cardiovascular effects can result.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems, jaw/tooth abnormalities, 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. Get medical attention for any breathing difficulty.

**Ingestion:**

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Skin Contact:**

Immediately flush skin with plenty of water for at least 15 minutes. Remove

contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

**Eye Contact:**

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

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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. Small amounts of residue may be flushed to sewer with plenty of water. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. 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:**

None established.

**Ventilation System:**

In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

**Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Colorless or white, granular salt.

**Odor:**

Odorless.

**Solubility:**

Soluble in water.

**Density:**

1.7

**pH:**

9.5

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

0

**Boiling Point:**

Not applicable.

**Melting Point:**

48.1C (118F) Loses 5 H<sub>2</sub>O

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

No information found.

**Vapor Pressure (mm Hg):**

No information found.

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

No information found.

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## 10. Stability and Reactivity

### Stability:

Stable under ordinary conditions of use and storage.

### Hazardous Decomposition Products:

Sodium and phosphorus oxides may form when heated to decomposition.

### Hazardous Polymerization:

Will not occur.

### Incompatibilities:

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

### Conditions to Avoid:

Incompatibles.

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## 11. Toxicological Information

Oral rat LD50: 12930 mg/kg. Anhydrous: Oral rat LD50: 17 gm/kg. Skin rabbit, standard Draize, 500 mg/24H, mild. Eye rabbit, standard Draize, 500 mg/24H mild.

-----\Cancer Lists\-----			
Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
-----			
Sodium Phosphate, Dibasic	No	No	
None			
( 7558-79-4 )			

## 12. Ecological Information

### Environmental Fate:

No information found.

### Environmental Toxicity:

No information found.

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## 13. Disposal Considerations

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 container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

Not regulated.

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## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
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Ingredient                                TSCA   EC    Japan
Australia
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Sodium Phosphate, Dibasic (7558-79-4)    Yes   Yes   Yes
Yes
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-----\Chemical Inventory Status - Part 2\-----
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Ingredient                                Korea  --Canada--
Phil.                                   DSL    NDSL
-----
Sodium Phosphate, Dibasic (7558-79-4)    Yes   Yes   No
Yes
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-----\Federal, State & International Regulations - Part 1\-----
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313-----
Ingredient                                -SARA 302-    -----SARA
Chemical Catg.                            RQ    TPQ    List
-----
Sodium Phosphate, Dibasic (7558-79-4)    No    No    No
No
```

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-----\Federal, State & International Regulations - Part 2\-----
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TSCA-
Ingredient                                CERCLA        261.33        8(d)
-----
Sodium Phosphate, Dibasic (7558-79-4)    5000        No        No
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Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
Reactivity: No      (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**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.

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## 16. Other Information

**NFPA Ratings:** Health: **1** Flammability: **0** Reactivity: **0**

**Label Hazard Warning:**

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. MAY BE HARMFUL IF SWALLOWED OR INHALED.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes.

Get medical attention if irritation develops or persists. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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<http://www.jtbaker.com/msds/englishhtml/s4754.htm>