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 MSDS Number: **S3866** \* \* \* \* \* *Effective Date: 02/23/06* \* \* \* \* \* *Supersedes: 08/10/04*


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MSDS MATERIAL SAFETY DATA SHEET **CHEMTREC:** 800-424-9300 (USA)  
 ----- 703-527-3887(Outside USA and Canada)  
**CANUTEC:** 613-996-6666

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

NOTE: Use CHEMTREC and CANUTEC  
 phone numbers only in the event  
 of a chemical emergency.

Emergency Telephone Number: 908-859-2151

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

**MALLINCKRODT**

**J. T. BAKER**

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# SODIUM HEXAMETAPHOSPHATE

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## 1. Product Identification

**Synonyms:** Hexametaphosphate, sodium salt; SHMP; Metaphosphoric acid, hexadecium salt; Sodium polyphosphates, glassy

**CAS No.:** 68915-31-1

**Molecular Weight:** Not applicable to mixtures.

**Chemical Formula:** Na<sub>(x+2)</sub> P<sub>x</sub> O<sub>(3x+1)</sub> x = 6 to 21

**Product Codes:**

J.T. Baker: V030

Mallinckrodt: E024

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Polyphosphoric Acids, Sodium Salts	68915-31-1	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: 0 - None  
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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Many of the systemic effects given below were taken from toxicity information for other phosphates.

**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. Systemic acidosis may result as this material is believed to hydrolyze into phosphoric acid when ingested.

**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.

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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:**

White powder or plates.

**Odor:**

No information found.

**Solubility:**

Soluble in water.

**Density:**

1.25

**pH:**

No information found.

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

0

**Boiling Point:**

1500C (2732F)

**Melting Point:**

550C (1022F)

**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:**

Sodium and phosphorus oxides may form when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

No information found.

**Conditions to Avoid:**

No information found.

## 11. Toxicological Information

Oral rat LD50: 3053 mg/kg

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Polyphosphoric Acids, Sodium Salts (68915-31-1)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

## 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.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                                     TSCA  EC   Japan  Australia
-----
Polyphosphoric Acids, Sodium Salts (68915-31-1)  Yes  Yes   Yes    Yes

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-----\Chemical Inventory Status - Part 2\-----
Ingredient                                     Korea  DSL   NDSL   Phil.
-----
Polyphosphoric Acids, Sodium Salts (68915-31-1)  Yes   Yes   No     Yes

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-----\Federal, State & International Regulations - Part 1\-----
Ingredient                                     -SARA 302-  -SARA 313-
RQ      TPQ      List  Chemical Catg.
-----
Polyphosphoric Acids, Sodium Salts
(68915-31-1)  No    No    No     No

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-----\Federal, State & International Regulations - Part 2\-----
Ingredient                                     CERCLA  -RCRA-  -TSCA-
                                     261.33  8(d)
-----
Polyphosphoric Acids, Sodium Salts
(68915-31-1)  No     No     No

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

## 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:

Keep container closed.  
 Use with adequate ventilation.  
 Avoid breathing dust.  
 Wash thoroughly after handling.  
 Avoid contact with eyes, skin and clothing.

### 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:**

MSDS Section(s) changed since last revision of document include: 3.

**Disclaimer:**

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**Prepared by:** Environmental Health & Safety

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