

MATERIAL SAFETY DATA SHEET**SODIUM PHOSPHATE, DIBASIC**

PRODUCT CODE NUMBER(S): 8120-1, 8160-1

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: *Sodium phosphate, dibasic; Disodium orthophosphate, anhydrous, Disodium hydrogen phosphate, anhydrous, OR Sodium phosphate dibasic, heptahydrate; Sodium orthophosphate dibasic; Disodium hydrogen phosphate heptahydrate*

Chemical Family: *Inorganic salt*

Chemical Formula: *Na₂HPO₄ OR Na₂HPO₄.7H₂O*

Product Use: *Laboratory reagent*

Manufacturer's Name and Address:

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HAZARDOUS INGREDIENTS OF MATERIALS

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Sodium phosphate, dibasic, anhydrous</i>	<i>>98</i>	<i>Not established</i>	<i>7558-79-4</i>
<i>OR</i>			
<i>Sodium phosphate, dibasic, heptahydrate</i>	<i>>98</i>	<i>Not established</i>	<i>7782-85-6</i>

PHYSICAL DATA

Physical State: *Solid*

Odour and Appearance: *Crystals or granular powder, odourless*

Odour Threshold (ppm): *Not applicable*

Vapour Pressure (mm Hg): *Not applicable; does not form vapour*

Vapour Density (Air = 1): *Not applicable*

Evaporation Rate: *Not applicable*

Boiling Point (degrees C): *Anhydrous form is converted to pyrophosphate at 240°C*

Melting Point (degrees C): *Not available*

pH: *9.1 (1%, aqueous, 25°C)*

Specific Gravity: *1.679 (heptahydrate)*

Coefficient of Water/Oil distribution: *Not available*

SHIPPING DESCRIPTION

UN: *Not regulated*

T.D.G. Class: *Not regulated*

Pkg. Group: *Not regulated*

REACTIVITY DATA

Chemical Stability: *Anhydrous form is hygroscopic.*

Incompatibility with other substances: *May react violently with strong acids. May be mildly corrosive to steel and aluminum.*

Reactivity: *Avoid high temperatures, ignition sources, generation of dust.*

Hazardous Decomposition Products: *None known*

FIRE AND EXPLOSION DATA

Flammability: *Non combustible. Will not burn.*

Extinguishing Media: *Use any means suitable for surrounding fire. Firefighters should wear protective equipment and clothing sufficient to prevent inhalation of dust and fumes, and contact with skin and eyes.*

Flash Point (Method Used): *Not applicable*

Autoignition Temperature: *Not applicable*

Upper Flammable Limit (% by volume): *Not applicable*

Lower Flammable Limit (% by volume): *Not applicable*

Hazardous Combustion Products: *Phosphorous oxides may be released in fire.*

Sensitivity to Impact: *None identified*

Sensitivity to Static discharge: *None identified*

TOXICOLOGICAL PROPERTIES AND HEALTH DATA**Toxicological Data:**

LD₅₀: *(oral, rat) 12,930 mg/kg (heptahydrate)*

LC₅₀: *Not available*

Irritation: *(eye, rabbit) 500 mg/24h, mild;
(skin, rabbit) 500 mg/24h, mild*

Effects of Acute Exposure to Product:

Inhaled: *Dust or mists may have a slightly acidic irritating effect on the nasal and respiratory passages. High concentrations of dust may cause coughing, temporary irritation. No human or animal information available.*

In contact with skin: *Prolonged skin contact may cause irritation. No effects expected if rinsed immediately. No human information available.*

In contact with eyes: *May cause mild irritation based on animal studies. No human information available.*

Ingested: *Not considered toxic, but ingestion of large amounts may cause diarrhea, nausea, vomiting and cramps.*

Effects of Chronic Exposure to Product:

Dermatitis may develop from repeated or prolonged skin exposure.

Prolonged or repeated exposure to high concentrations of dust may cause increased mucous flow in upper respiratory tract which disappears when exposure is stopped. May contribute to development of chronic bronchitis, but air pollution and smoking are more important. High oral doses (1% in the diet) of inorganic phosphates have produced toxic ef-

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fects on the bones, kidneys and parathyroid glands. This is not considered relevant to occupational settings. Long term ingestion of >1% of diet caused kidney damage in rats; no effects were observed after administration of 0.5% of diet over a three-year period.

Carcinogenicity: Not listed as a carcinogen by NTP, IARC or OSHA

Teratogenicity: No information available. Not expected to be teratogenic.

Reproductive Effects: Fertility was reduced in rats receiving large doses over three generations; the amount was also toxic to the parents. No human information available. Not expected to be a hazard in normal workplace usage.

Mutagenicity: No information available. Not expected to be mutagenic.

Synergistic Products: None known

PREVENTIVE MEASURES

Engineering Controls: Local exhaust ventilation recommended.

Respiratory Protection: Dust/mist mask, fumehood. For conditions where mist is present, to the maximum use specified by the respirator supplier, NIOSH/MSHA approved half-face high-efficiency dust/mist filter respirator, or NIOSH/MSHA approved full face-piece high-efficiency dust/mist filter respirator. Higher or unknown concentrations, or for fire or spill conditions, self-contained breathing apparatus, or full face-piece, positive-pressure supplied-air respirator.

Eye Protection: Safety glasses

Skin Protection: Wear protective gloves and clean body-covering clothing sufficient to limit contact.

Other Personal Protective Equipment: Safety shower and eye wash in work area.

Leak and Spill Procedure: Ventilate area. Cleanup personnel should be thoroughly trained in the hazards of this material and must wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes. Mix with sand or inert absorbent, collect in a manner that does not raise dust, and transfer carefully into labelled, covered container(s) for removal by disposal company. Wash site of spillage thoroughly with water and detergent.

Waste Disposal: Follow all federal, provincial and local regulations for disposal.

Handling Procedures and Equipment: Workers using this chemical must be trained in its hazards and its safe use. Follow routine safe handling procedures and good house-keeping procedures. Avoid generating dust. Avoid contact with skin and eyes. Use the smallest amount possible for the purpose, in designated areas with adequate ventilation. Keep containers closed when not in use and when empty.

Storage Requirements: Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight. Keep containers tightly closed when not in use and when empty. Protect from damage. Store away from incompatible materials.

FIRST AID MEASURES

Specific Measures:

Eyes: Flush eyes thoroughly with running water for five to ten (5-10) minutes, or until no trace of chemical remains, holding eyelids open while flushing. Get medical advice if irritation persists.

Skin: Brush or wipe off dry material. Flush skin thoroughly with running water until no trace of chemical remains. Get medical attention if irritation develops.

Inhalation: Remove to fresh air. Give oxygen and get medical attention for breathing difficulty.

Ingestion: If victim is alert and not convulsing, give 2 to 4 glasses of water to dilute material. If vomiting occurs, rinse mouth and give more water to drink. If victim feels unwell, or if a large amount has been ingested, get medical attention.

REFERENCES USED

CINFO disc: Cheminfo, April 2004

Budavari: The Merck Index, 12th ed., 1997

Royal Society of Chemistry: Chemical Safety Data Sheets, Vol. 2, 1989

Sax, Lewis: Hawley's Condensed Chemical Dictionary, 11th ed., 1987

Suppliers' Material Safety Data Sheets

ADDITIONAL INFORMATION

Date Issued: August 31, 1992

Revision: April 2004

MSDS: 8120-1, 8160-1

Proposed WHMIS Designation: Not a controlled product. Not required to be updated every three years (WHMIS 1992, B-40, Section 29,2)

Prepared by: Caledon Laboratories Ltd. (905) 877-0101
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