

MATERIAL SAFETY DATA SHEET**CALCIUM PHOSPHATE**

PRODUCT CODE NUMBER(S): 2670-1

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: *Calcium phosphate, dibasic, dihydrate; Calcium hydrogen phosphate; Calcium monohydrogen phosphate*

Chemical Family: *Inorganic phosphate salt*

Chemical Formula: *CaHPO₄·2H₂O*

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>Calcium phosphate</i>	<i>>98</i>	<i>Not established</i>	<i>7789-77-7</i>

PHYSICAL DATA

Physical State: *Solid*

Odour and Appearance: *Crystals or crystalline 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): *Not applicable; does not form vapour. Decomposes at high temperatures.*

Melting Point (degrees C): *109°C (loses water)*

pH: *7.8 (1%, aqueous)*

Specific Gravity: *2.32*

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: *Stable. Slow dehydration (efflorescence) can occur in dry air.*

Incompatibility with other substances: *May react violently with strong oxidizers or strong acids. May be mildly corrosive to aluminum, particularly at high temperatures.*

Reactivity: *Avoid heat, incompatible materials, and generation of dust.*

Hazardous Decomposition Products: *None known*

FIRE AND EXPLOSION DATA

Flammability: *Non combustible. Will not burn.*

Extinguishing Media: *Use extinguishing media appropriate to the material that is burning. Fight fire from upwind, from a safe distance. Because of release of toxic products, firefighters must wear protective equipment (self-contained breathing apparatus) and clothing sufficient to prevent inhalation and contact with skin and eyes. Bunker Gear may not be adequate.*

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: *Not available*

LC₅₀: *Not available*

Effects of Acute Exposure to Product:

Inhaled: *No human or animal information available. Inhalation of dust may cause mild transitory irritation of upper respiratory tract with wheezing, coughing, and shortness of breath.*

In contact with skin: *Not expected to be irritating. Prolonged skin contact may cause mild irritation. No effects if promptly rinsed.*

In contact with eyes: *Dusts or mists will probably cause mechanical irritation, with tearing, redness, temporary pain.*

Ingested: *Essentially non-toxic. Phosphate salts have been studied extensively as they have been used as food additives. 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. Long-term respiratory exposure may cause increased mucous flow which stops when exposure is discontinued.

Very high long term ingestion of phosphates (>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.*

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Reproductive Effects: No 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. For conditions where dust or 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 or goggles.

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 of spill. If spill is large, and dust is present, clean-up personnel should be trained in the handling of hazardous materials, and should wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes. Dampen material and collect into suitable containers for disposal. Wash area of spill thoroughly with water.

Waste Disposal: Follow all federal, provincial, and local regulations

Handling Procedures and Equipment: Workers using this chemical should be properly trained in its hazards and its safe use, and should wear appropriate protective equipment and clothing. Keep work areas free of incompatible materials. Use the smallest amounts possible for the purpose, in designated areas with adequate ventilation. Avoid generating dusts. Avoid all contact and inhalation. Wash thoroughly after working with this chemical. Keep containers closed when not in use.

Storage Requirements: Store in a suitable, labelled containers, in a cool, dry, well-ventilated place out of direct sunlight and away from incompatible materials. Keep containers tightly closed.

FIRST AID MEASURES

Specific Measures:

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

Skin: Remove contaminated clothing. Brush or wipe off dry material. Wash skin with plenty of water until no evidence of chemical remains. If irritation develops get medical attention.

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

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

REFERENCES USED

CINFO disc: MSDS's, April 2007

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 2010

MSDS: 2670-1

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

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