



MSDS - Dicalcium Phosphate Dihydrate

Issued August 29, 2007

Section 1. Product Information

Chemical or Synonym: Dibasic Calcium Phosphate, Dihydrate

Molecular Formula: $\text{CaHPO}_4 \cdot n\text{H}_2\text{O}$ n=2

Product Use: Nutritional supplement, Excipient

Distributed by Pestell Minerals & Ingredients, New Hamburg, ON Canada

24 Hour Emergency Telephone (Canutec): 613-996-6666

Section 2. Hazardous Ingredients

Dicalcium Phosphate, Dihydrate: CAS No. 7789-77-7

WHMIS Hazard: Yes - 100%

Acute Oral Toxicity: LD50 - lethal dose 50% of test species, >4640 mg/kg (rat)

Chronic Toxicity: This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be probable or suspected human carcinogens

Section 3. Physical Data

Physical Appearance and Odor: White powder, solid, odorless

pH: 7.4 at 20 wt/wt%

Specific Gravity: Not available

Water Solubility: Slightly soluble

Melting Point Range: Not available

Boiling Point Range: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Molecular Weight: 172.09

Section 4. Fire or Explosion Hazard

Flash Point: Not applicable

Extinguishing Media: Not combustible. Use extinguishing method suitable for surround fire.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control and water later.

Unusual Fire and Explosion Hazards: Not combustible

Hazardous Decomposition Materials (under fire conditions): None known

Section 5. Reactivity Data

Chemical Stability: This material is stable under normal handling and storage conditions.

Conditions to Avoid: Elevated temperatures.

Materials/Chemical to Avoid: None known

Hazardous Decomposition Products: Hydroxyapatite

Decomposition Type: Thermal - None known

Hazardous Polymerization: Not applicable

Section 6. Toxicological Properties

Warning Statement: Caution: Dusts in high concentrations may cause skin, eye and respiratory tract irritation.

Acute Skin: Skin absorption not likely. May cause irritation.

Acute Inhalation: May cause upper respiratory tract irritation.

Acute Ingestion: This substance is commonly used as a component in food, vitamins and pharmaceutical tablets, and may be safely consumed in moderate amounts. Ingestion of large quantities may cause nausea, vomiting, diarrhea, abdominal cramps.

Chronic Effects: This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogen.

Ecological: No data found for this product

Section 7. Preventive Measures

Accidental Release Measures

Evacuation Procedures and Safety: Wear appropriate protective gear for the situation. See Personal Protection.

Cleanup and Disposal of Spill: Sweep or vacuum up and place in an appropriate closed container. Avoid creation of dusty conditions. Clean up residual material by washing area with water and detergent. Do Not Return Material To Its Original Container.

Environmental and Regulatory Reporting: Runoff from fire control or dilution water may cause pollution.

Handling and Storage

Handling: This is a food ingredient intended for human consumption. Keep containers closed when not being used. Avoid breathing dusts or vapors. Avoid direct or prolonged contact with skin and eyes.

Storage: Store in closed containers. Store in an area that is cool, dry, sanitary, isolated from all toxic and harmful substances.

Exposure Controls/Personal Protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with section on "Disposal Considerations".

Exposure Guidelines: No exposure limits were found for this product or any of its ingredients.

Engineering Controls: Where engineering controls are indicated by use of conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): dust/mist filtering respirator.

Eye/Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. It is generally regarded as good practice to wear a minimum of safety glasses with side shields when working in industrial environments.

Skin Protection: Skin contact should be minimized through use of gloves and suitable long-sleeved clothing (i.e. shirts and pants). Consideration must be given to both durability as well as permeation resistance.

Work Practice Controls: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

1. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
2. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
3. Wash exposed skin promptly to remove accidental splashes or contact with this material.

Disposal Considerations

Waste Disposal Method: Waste management options should first consider possible re-use or recycling opportunities. Some provinces have active "waste exchange" networks for re-use and recycling of wastes. Contact your local waste management companies to explore available options. All waste management activities must obey local, provincial and federal regulations. Possible disposal methods include stabilizing and solidifying this material with compatible binders. Then place in a secure landfill.

Section 8. First Aid Measures

Eye Exposure: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.

Skin Exposure: In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

Inhalation: If respiratory irritation or distress occurs, remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

Ingestion: If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by

touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute chemical.

Medical Conditions Possibly Aggravated by Exposure

Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

Notes to Physician

All treatments should be based on observed signs and symptoms of distress in the patient.

Consideration should be given to the possibility that over exposure to materials other than this product may have occurred.

Ingestion in large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the feces with the diarrhea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity. Treatment should take into consideration both anionic and cation portion of the molecule. The following treatments should be considered for the specific group(s) of phosphate salts found in this product:

- All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcemia, so calcium levels should be monitored.
- Ammonium salts have a hypothetical risk of ammonia toxicity. In addition to calcium levels, ammonia and phosphate levels should be monitored.
- Potassium salts have a hypothetical risk of hyperkalemia which can cause cardiac arrhythmia. In addition to calcium levels, potassium and phosphate levels should be monitored. Also consider continuous EKG monitoring to detect hyperkalemia.
- Sodium salts have a hypothetical risk of hypernatremia. In addition to calcium levels, sodium and phosphate levels should be monitored.

Section 9. Transportation

Transportation Status: Important! Statements below provide additional data on listed DOT

classification. The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

TDG Status: Non dangerous

IMO Status: Not regulated

IATA Status: Not regulated

Disclaimer

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