Material Safety Data Sheet  
Calcium Phosphate Tribasic

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Calcium Phosphate Tribasic  
**Synonyms:** Tricalcium phosphate; Calcium phosphate; Ca3(PO4)2; Calcium phosphate, tribasic; Tricalcium orthophosphate.

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7758-87-4</td>
<td>Phosphoric acid, calcium salt (2:3)</td>
<td>100</td>
<td>231-840-8</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: white.  
**Caution!** May cause eye and skin irritation. May cause respiratory tract irritation.  
**Target Organs:** No data found.  
**Potential Health Effects**  
**Eye:** May cause eye irritation.  
**Skin:** May cause skin irritation. The toxicological properties of this material have not been fully investigated.  
**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.  
**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.  
**Chronic:** No information found.

Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.  
**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.  
**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.  
**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.  
**Notes to Physician:** Treat symptomatically and supportively.
Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Reduce airborne dust and prevent scattering by moistening with water. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid, calcium salt (2:3)</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Hydroxylapatite Ca5(OH)(PO4)3</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Calcium hydroxide phosphate (Ca5(OH)(PO4)3)</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Phosphoric acid, calcium salt (2:3): No OSHA Vacated PELs are listed for this chemical. Hydroxylapatite Ca5(OH)(PO4)3: No OSHA Vacated PELs are listed for this chemical. Calcium hydroxide phosphate (Ca5(OH)(PO4)3): No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.
**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Section 9 - Physical and Chemical Properties

**Physical State:** Solid  
**Appearance:** white  
**Odor:** odorless  
**pH:** Not available.  
**Vapor Pressure:** Not available.  
**Vapor Density:** Not available.  
**Evaporation Rate:** Not available.  
**Viscosity:** Not available.  
**Boiling Point:** Not available.  
**Freezing/Melting Point:** 1670 deg C  
**Decomposition Temperature:** Not available.  
**Solubility:** Insoluble.  
**Specific Gravity/Density:** 3.14  
**Molecular Formula:** Ca10O25P6.H2O  
**Molecular Weight:** 1004.7

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Dust generation, excess heat.  
**Incompatibilities with Other Materials:** No information found.  
**Hazardous Decomposition Products:** Phosphine, oxides of phosphorus, irritating and toxic fumes and gases, calcium oxide.  
**Hazardous Polymerization:** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:**  
**CAS# 7758-87-4** unlisted.  
**CAS# 1306-06-5:** MY8434000  
**CAS# 12167-74-7** unlisted.  
**LD50/LC50:** Not available.  
**CAS# 1306-06-5:**  
- Oral, mouse: LD50 = >99500 mg/kg;  
- Oral, rat: LD50 = >25350 mg/kg;  
**CAS# 12167-74-7:**  
**Carcinogenicity:**  
**CAS# 7758-87-4:** Not listed by ACGIH, IARC, NTP, or CA Prop 65.  
**CAS# 1306-06-5:** Not listed by ACGIH, IARC, NTP, or CA Prop 65.  
**CAS# 12167-74-7:** Not listed by ACGIH, IARC, NTP, or CA Prop 65.  
**Epidemiology:** No information available.  
**Teratogenicity:** No information available.

### Section 12 - Ecological Information
Ecotoxicity: No data available. No information available.
Environmental: Phosphates promote the eutrophication of lakes and other bodies of water.
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name:</td>
<td>Not regulated as a hazardous material</td>
<td>No information available.</td>
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<tr>
<td>Hazard Class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN Number:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing Group:</td>
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</tbody>
</table>

Section 15 - Regulatory Information

Hazard Symbols: Not available.
Risk Phrases:
Safety Phrases:
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)
CAS# 7758-87-4: 0
CAS# 1306-06-5: 0
CAS# 12167-74-7: 0

Section 16 - Additional Information

MSDS Creation Date: 9/02/1999
Revision #6 Date: 10/03/2005
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall INDO GULF GROUP be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if INDO GULF GROUP has been advised of the possibility of such damages.

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