

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Product name: Tricalcium phosphate
Chemical name (e.g., IUPAC name): Tricalcium phosphate
Trade names: Calcium phosphate-Tri basic

Relevant identified uses of the substance or mixture and uses advised against:

Common uses: Food fortification.
Free flowing agent for powdered products such as icing sugar, flours and dry bases for soups and drinks.
Dispersant in tablet manufacture.
Polymerization of styrene.
Ceramic colouring agent.

Uses advised against: Not for use in the preparation of injectable solutions.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to GHS: Not classified.

Classification according to 29 CFR 1910.1200 (OSHA HCS): Not classified.

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP): Not classified.

Label elements:

Labelling according to GHS:

Hazard pictogram(s): Not required.
Signal word: Not required.
Hazard statement(s): Not required.
Precautionary Statement(s): Not required.

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Labelling according to 29 CFR 1910.1200 (OSHA HCS):

Hazard pictogram(s): Not required.
Signal word: Not required.
Hazard statement(s): Not required.
Precautionary Statement(s): Not required.

Labelling in accordance with Regulation 1272/2008 (CLP):

Hazard pictogram(s): Not required.
Signal word: Not required.
Hazard statement(s): Not required.
Precautionary Statement(s): Not required.

Other hazard: Not available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

Ingredient name	Identifiers	%	CLP/GHS Classification	OSHA HCS
Tricalcium bis (orthophosphate)	CAS number: 7758-87-4 EC number: 231-840-8	-	Not classified	Not classified
Pentacalcium hydroxide tris (orthophosphate)	CAS number: 12167-74-7 EC number: 235-330-6	-	Not classified	Not classified
Hydroxyapatite (Ca ₅ (OH)(PO ₄) ₃)	CAS number: 1306-06-5 EC number: 215-145-7	-	Not classified	Not classified

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

4. FIRST AID MEASURES

Description of first aid measures:

Eyes contact: In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes.
Get medical attention.

Skin contact: Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
Get medical attention.

Inhalation: Remove the victim from site of exposure to fresh air.
If breathing is difficult, give oxygen.
If not breathing give artificial respiration.
Get medical attention.

Ingestion: Do not induce vomiting. If victim is conscious, wash mouth thoroughly with plenty of water.
Never give anything by mouth to an unconscious person.
Get medical attention.

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Most important symptoms and effects, both acute and delayed:

See section 2.2 (Label elements) and/or section 11 (Toxicological information) for the most important known symptoms and effects.

Indication of any immediate medical attention and special treatment needed: Not available.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable: Alcohol-resistant foam, carbon dioxide, dry powder or water spray.

Not suitable: N/A

Special hazards arising from the substance or mixture: Non-combustible.

Under fire conditions may emit oxides of phosphorus, calcium oxide.

Advice for firefighters:

Special protective equipment for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment.

Avoid breathing dust.

Ensure adequate ventilation.

Ventilate area of spill.

Environmental precautions: Prevent entry into waterways, sewers, basements or confined areas.

Methods and materials for containment and cleaning up:

Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

Reference to other sections: See Section 1 for emergency contact information.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid contact with skin and eyes.

Avoid inhalation of dust.

Wash thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Workers should wash hands and face before eating, drinking and smoking.

Remove contaminated clothing and protective equipment before entering eating areas.

See also section 8 for additional information measures.

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Conditions for safe storage, including any incompatibilities:

Storage: Keep container tightly closed in a dry, cool and well-ventilated place. Protect from moisture.
Keep away from strong oxidizing agents, trimethylol propane or trimethylol propane derived products.
Keep away from heat.

Packaging materials recommended: Use original container.

Specific end use(s): N/A

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Occupational exposure limit values: N/A

Exposure controls:

Engineering measures: Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits.
If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Person Protective measures:

Respiratory protection: Suitable respirator. Be sure to use an approved/certified equipment or equivalent equipment.
Wear appropriate respirator when ventilation is inadequate.

Hand protection: Wear protective gloves to prevent skin exposure.

Eye protection: Wear protective safety glasses.

Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Environmental exposure controls: Not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Appearance: White air-resistant powder

Odour: Odourless

Odour threshold: N/A

pH: N/A

Melting point/Freezing point: 1100°C

Initial boiling point/boiling range: Not applicable

Flash point: Not applicable

Evaporation rate: Not Volatile

Flammability: N/A

Upper/lower flammability or explosive limits: N/A

Vapor pressure: N/A

Vapor density: 6.8 (air=1)

Relative density: 3.140 g/cm³

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Solubility(ies): Almost insoluble in water, Insoluble in alcohol, soluble in dilute hydrochloric and nitric acid.

Partition coefficient Octanol/Water: N/A

Auto-ignition temperature: Not applicable

Decomposition temperature: N/A

Viscosity: Not Viscous

Explosive properties: Not explosive

Oxidizing properties: Not oxidizing

Other information: N/A

10. STABILITY AND REACTIVITY

Reactivity: Not available.

Chemical stability: The product is stable under normal handling and storage conditions described in Section 7.

Possibility of hazardous reactions: Hazardous reactions are not expected, under normal conditions of storage and use.

Conditions to avoid: Not available.

Incompatible materials: Strong oxidizing agents strong oxidizing agents, trimethylol propane or trimethylol propane derived products.

Hazardous decomposition products:

Other decomposition products: Not available.

In the event of fire: See section 5.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity:

Product/ingredient name	Test	Species	Dose
Tricalcium bis (orthophosphate)	LD50, Oral	Rat	>2000 mg/kg
	LD50, Administration onto the skin	Rabbit	>2000 mg/kg
	LC50, Inhalation	Rat	>2.6 mg/L/4H
Pentacalcium hydroxide tris (orthophosphate)	LD50, Oral	Rat	>5000 mg/kg
	LD50, Administration onto the skin	Rabbit	>2000 mg/kg
	LC50, Inhalation	Rat	>2.35 mg/L/170min
Hydroxyapatite (Ca ₅ (OH)(PO ₄) ₃)	LD50, Oral	Rat	>25350 mg/kg

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Skin corrosion/irritation: Not available.
Serious eye damage/irritation: Not available.
Respiratory or skin sensitization: Not available.
Germ cell mutagenicity: Not available.
Carcinogenicity: Not available.
Reproductive toxicity: Not available.
Specific target organ toxicity (single exposure): Not available.
Specific target organ toxicity (repeated exposure): Not available.
Aspiration hazard: Not available.

Other symptoms:

Inhalation: May be harmful if inhalation.
Toxic to lungs and mucous membranes.
Causes respiratory track irritation.
May cause coughing, sneezing and laboured breathing.

Ingestion: May be harmful if swallowed.
Large quantities may cause nausea, vomiting, cramps and diarrhoea.

Skin contact: May be harmful if absorbed through skin. Causes skin irritation.

Eye contact: May causes eye irritation.

12. ECOLOGICAL INFORMATION

Toxicity: Not available.

Persistence and Degradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Results of PBT and vPvB assessment: Not available.

Other adverse effects: Not available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Packing: Empty containers should be taken for local recycling, recovery or waste disposal.

[cont...]

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14. TRANSPORT INFORMATION

Un number:

ADR/RID: -

IMDG: -

IATA: -

DOT (US): -

UN proper shipping name:

ADR/RID: Not regulated.

IMDG: Not regulated.

IATA: Not regulated.

DOT (US): Not regulated.

Transport hazard class(es):

ADR/RID: -

IMDG: -

IATA: -

DOT (US): -

Packing group:

ADR/RID: -

IMDG: -

IATA: -

DOT (US): -

Environmental hazard:

Marine pollutant: N/A

Special precautions for user: Not available.

Transport to bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA inventory:

Tricalcium bis(orthophosphate): Listed.

Pentacalcium hydroxide tris(orthophosphate): Not listed.

Hydroxyapatite (Ca₅(OH)(PO₄)₃): Listed.

Chemical safety assessment: Not available.

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Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Key Legend Information:

CAS- Chemical Abstract Service
ACGIH- American Conference of Governmental Industrial Hygienists
OSHA- Occupational Safety and Health Administration
NTP- National Toxicology program
IARC- International Agency for Research on Cancer
N/A- Not available
H-statements- Hazard statements
TLV- Threshold Limit Value
TWA- Time-weighted average
STEL- Short-Term Exposure Limit
CSA- Chemical safety assessment

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.