

SAFETY DATA SHEET

Tricalcium Phosphate

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, Uruguay (Decree 307/2009 as amended by Decree 346/2011), SDS standards for Brazil (ABNT NRB 14725-4: 2014), and European Directives

SECTION 1. PRODUCT IDENTIFICATION

1.1 TRADE NAME (AS LABELED):

Tricalcium Phosphate

SYNONYMS:

Pentacalcium Hydroxide Tris(Orthophosphate) and Hydroxyapatite

CAS#

12167-74-7; 1306-06-5

EC NUMBER:

235-330-6; 215-145-7

REACH REGISTRATION #:

01-2119490075-38-0004 (CAS#: 12167-74-7; EC#: 235-330-6)

1.2 PRODUCT USE:

Food: A nutritional supplement in processed foods. Free-flow agent for dry beverage, table salt as well as other food products. Industrial/Polymer Grade: Protective agent in production of polystyrene. A free-flow control agent for powdered materials.

1.3 MANUFACTURER'S NAME:

Jiangsu Khonor Chemicals Co., Limited

ADDRESS:

Rm 1902 Easey Comm Bldg, 253-261, Hennessy RD
Wanchai HK

BUSINESS PHONE:

86-518-85108858

WEB SITE INFORMATION:

www.khonorchem.com

1.4 EMERGENCY PHONE NUMBERS:

Tel: +86 19851890163

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DATE OF CURRENT REVISION:

January 25, 2023

DATE OF LAST REVISION:

January 16, 2020

SECTION 2. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: This product is a white powder with no odor.

Health Hazards: None anticipated.

Flammability Hazards: This product is not flammable.

Reactivity Hazards: None.

Environmental Hazards: This product is not expected to have adverse effects to the aquatic environment.

2.1 GHS LABELING AND CLASSIFICATION:

This product does not meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910. 1200 and regulation (EU) No. 2020/878 and regulation (EC) No. 1272/2008.

Index Number:

EC# 235-330-6 is not listed in Annex VI

EC# 215-145-7 is not listed in Annex VI

Substances not listed either individually or in group entries must be self-classified.

Component(s) Contributing to Classification(s)

None applicable

2.2 LABEL ELEMENTS

GHS Hazard Symbol(s)

None

Signal Word: None

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GHS Hazard Classification(s):

Not Classified

Hazard Statement(s):

None

Prevention Statement(s):

None

Response Statement(s):

None

Storage Statement(s):

None

Disposal Statement(s):

None

2.3 OTHER HAZARDS:

Endocrine Disruptor Information: This product does not contain chemicals on the Candidate List of substances of very high concern for Authorisation.

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Hazardous Ingredients:	WT %	CAS#	EINECS #	Hazard Classification
Hydroxylapatite (Ca ₅ (OH) (PO ₄) ₃)	100%	12167-74-7; 1306-06-5	235-330-6; 215-145-7	None

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

EYE CONTACT: If product enters the eyes, open eyes while under gentle running water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention.

SKIN CONTACT: Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before re-use.

INHALATION: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

INGESTION: If large quantities of this product is swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin, respiratory system or eye problems may be aggravated by prolonged contact.

4.2 SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

Exposure to skin and eyes may cause mechanical irritation.

4.3 RECOMMENDATIONS TO PHYSICIANS:

Treat symptoms and eliminate overexposure.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 FIRE EXTINGUISHING MATERIALS:

Use fire extinguishing methods below:

<u>Water Spray:</u>	Yes	<u>Carbon Dioxide:</u>	Yes
<u>Foam:</u>	Yes	<u>Dry Chemical:</u>	Yes
<u>Halon:</u>	Yes	<u>Other:</u>	Any "C" Class

5.2 UNUSUAL FIRE AND EXPLOSION HAZARDS:

Under normal use, no special measures are required.

Explosion Sensitivity to Mechanical Impact: No

Explosion Sensitivity to Static Discharge: No

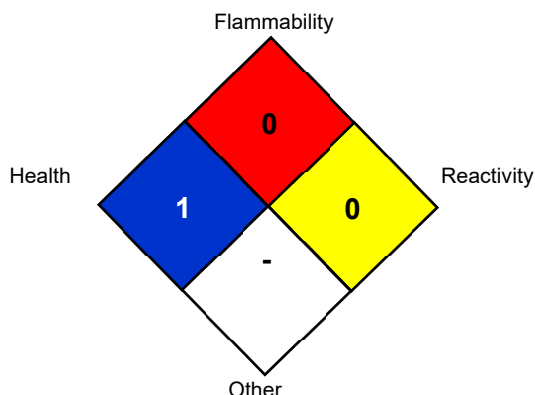
5.3 SPECIAL FIRE-FIGHTING PROCEDURES:

Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

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NFPA RATING SYSTEM



Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

HMIS RATING SYSTEM

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM	
HEALTH HAZARD (BLUE)	1
FLAMMABILITY HAZARD (RED)	0
PHYSICAL HAZARD (YELLOW)	0
PROTECTIVE EQUIPMENT	
EYES	RESPIRATORY
HANDS	BODY
	See Sect 8
	See Sect 8
For Routine Industrial Use and Handling Applications	

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Handle in a well-ventilated work area.

6.2 ENVIRONMENTAL PRECAUTIONS:

If possible, prevent entry to sewers, storm drains, surface waters, and soils.

6.3 SPILL AND LEAK RESPONSE:

Spilled product should be removed immediately to avoid formation of dust. Remove by mechanical means (i.e. vacuuming). Dilute remainder with plenty of water (avoid formation of aerosols). Ensure sufficient ventilation. Wash contaminated clothing.

SECTION 7. HANDLING and STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Handle in a well-ventilated work area.

7.2 STORAGE AND HANDLING PRACTICES:

Keep away from incompatible materials. Keep in a dry, well-ventilated area in closed containers. Protect containers from physical damage.

7.3 SPECIFIC USES:

See Section 1.2.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 EXPOSURE PARAMETERS:

Chemical Name	CAS#	ACGIH TLV	OSHA TWA	EH40 TWA
Hydroxylapatite (Ca ₅ (OH) (PO ₄) ₃)	12167-74-7; 1306-06-5	Not Listed	Not Listed	Not Listed

PARTICULATES NOT OTHERWISE REGULATED RESPIRABLE FRACTION

OSHA	$\frac{\text{TWA}}{5 \text{ mg/m}^3}$	NOM 010 STPS 2015	$\frac{\text{TWA}}{3 \text{ mg/m}^3}$
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PARTICULATES NOT OTHERWISE REGULATED TOTAL DUST

OSHA	$\frac{\text{TWA}}{15 \text{ mg/m}^3}$	NOM 010 STPS 2015	$\frac{\text{TWA}}{10 \text{ mg/m}^3}$
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8.2 EXPOSURE CONTROLS:

VENTILATION AND ENGINEERING CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: Not required for properly ventilated areas. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

EYE PROTECTION: Safety glasses or goggles are recommended. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

HAND PROTECTION: Gloves are recommended to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

BODY PROTECTION: Use body protect appropriate to task being performed. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

SECTION 9. PHYSICAL and CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE (Physical State) and COLOR: This product is a white powder

ODOR: Odorless

ODOR THRESHOLD: Not Available

pH: Not Available

MELTING/FREEZING POINT: 1670°C (3038°F)

BOILING POINT: Not Available

FLASH POINT: Not available

FLAMMABILITY (SOLID, GAS): Not Applicable

UPPER/LOWER FLAMMABILITY OR EXPLOSION LIMITS: Not Available

VAPOR PRESSURE (mm Hg @ 20°C (68°F): Not Available

VAPOR DENSITY: Not Available

RELATIVE DENSITY: Not Available

SPECIFIC GRAVITY: 3.1-3.2

SOLUBILITY IN WATER: Partially soluble

WEIGHT PER GALLON: Not Available

PARTITION COEFFICIENT (n-octanol/water): Not Available

AUTO-IGNITION TEMPERATURE: Not Available

DECOMPOSITION TEMPERATURE: >1100°C (2012°F)

VISCOSITY: Not Available

OXIDIZING PROPERTIES: Not an Oxidizer

EXPLOSIVE PROPERTIES: Not Available

9.2.1 INFORMATION WITH REGARD TO PHYSICAL HAZARD CLASSES

EXPLOSIVES: Not Available

FLAMMABLE GASES: Not Available

AEROSOLS: Not Available

OXIDISING GASES: Not Available

GASES UNDER PRESSURE: Not Available

FLAMMABLE LIQUIDS: Not Available

FLAMMABLE SOLIDS: Not Available

SELF-REACTIVE SUBSTANCES AND MIXTURES: Not Available

PYROPHORIC LIQUIDS: Not Available

PYROPHORIC SOLIDS: Not Available

SELF-HEATING SUBSTANCES AND MIXTURES: Not Available

SUBSTANCES AND MIXTURES, WHICH EMIT FLAMMABLE GASES IN CONTACT WITH WATER: Not Available

OXIDISING LIQUID: Not Available

OXIDISING SOLID: Not Available

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ORGANIC PEROXIDES: Not Available
CORROSIVE TO METALS: Not Available
DESENSITISED EXPLOSIVES: Not Available
GASES UNDER PRESSURE: Not Available

9.2.2 OTHER SAFETY CHARACTERISTICS

MECHANICAL SENSITIVITY: Not Available
SELF-ACCELERATING POLYMERISATION TEMPERATURE: Not Available
FORMATION OF EXPLOSIBLE DUST/AIR MIXTURES: Not Available
ACID/ALKALINE RESERVE: Not Available
EVAPORATION RATE: Not Available
MISCIBILITY: Not Available
CONDUCTIVITY: Not Available
CORROSIVENESS: Not Available
GAS GROUP: Not Available
REDOX POTENTIAL: Not Available
RADICAL FORMATION POTENTIAL: Not Available
PHOTOCATALYTIC PROPERTIES: Not Available

SECTION 10. STABILITY and REACTIVITY

10.1 REACTIVITY:

No data available.

10.2 STABILITY:

Stable under conditions of normal storage and use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

Will not occur.

10.4 CONDITIONS TO AVOID:

Dusting conditions.

10.5 MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:

None known.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

No data available.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

TOXICITY DATA:

Oral-Rat LD50: >25350 mg/kg

Dermal-Rat LD50: 2000 mg/kg

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion / irritation	Based on available data, the classification criteria are not met
Serious eye damage / irritation	Based on available data, the classification criteria are not met
Respiratory or skin sensitization	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

ROUTE OF EXPOSURE: The most significant routes of overexposure for this product are by contact with the skin or eyes. The symptoms of overexposure are described in the following paragraphs.

ACUTE:

INHALATION: None anticipated.

CONTACT WITH SKIN: Exposure to skin may cause mechanical irritation.

EYE CONTACT: Contact with the eyes may cause mechanical irritation.

INGESTION: Ingestion of large quantities may cause abdominal cramps, nausea, vomiting, diarrhea.

CHRONIC: No data available.

TARGET ORGANS: **Acute:** Skin, Eyes **Chronic:** No data available.

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SUSPECTED CANCER AGENT: Ingredients within this product are not found on the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product may be irritating to skin and eyes.

SENSITIZATION TO THE PRODUCT: No information available for this product.

REPRODUCTIVE TOXICITY INFORMATION: No specific information is available concerning the effects of this product and its components on the human reproductive system.

11.2 INFORMATION ON OTHER HAZARD CLASSES WHICH RELATES TO ENDOCRINE DISRUPTING PROPERTIES:

No specific data available for this product.

SECTION 12. ECOLOGICAL INFORMATION

12.1 TOXICITY:

No specific data available on this product.

12.2 PERSISTENCE AND DEGRADABILITY:

No specific data available on this product.

12.3 BIOACCUMULATIVE POTENTIAL:

No specific data available on this product.

12.4 MOBILITY IN SOIL:

No specific data available on this product.

12.5 RESULTS OF PBT AND vPvB ASSESSMENT:

No specific data available on this product.

12.6 ENDOCRINE DISRUPTING PROPERTIES:

No specific data available on this product.

12.7 OTHER ADVERSE EFFECTS:

No specific data available on this product.

12.8 WATER ENDANGERMENT CLASS:

No data available. At present there are no ecotoxicological assessments for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS:

Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

13.2 EU WASTE CODE:

Not determined.

SECTION 14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

14.1 U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS: This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

UN IDENTIFICATION NUMBER:	None
PROPER SHIPPING NAME:	Non-Regulated Material
HAZARD CLASS NUMBER and DESCRIPTION:	None
UN IDENTIFICATION NUMBER:	None
PACKING GROUP:	None
DOT LABEL(S) REQUIRED:	None
NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER:	None
RQ QUANTITY:	None

MARINE POLLUTANT: The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not considered as dangerous goods.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO):

UN IDENTIFICATION NUMBER:	None
PROPER SHIPPING NAME:	Non-Regulated Material
HAZARD CLASS NUMBER and DESCRIPTION:	None
UN IDENTIFICATION NUMBER:	None
PACKING GROUP:	None

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EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not considered by the United Nations Economic Commission for Europe to be dangerous goods.

SECTION 15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

UNITED STATES REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act as follows: None

U.S. SARA 311/312: None

U.S. SARA THRESHOLD PLANNING QUANTITY: There are no specific Threshold Planning Quantities for the components of this product.

U.S. CERCLA REPORTABLE QUANTITY (RQ): None

U.S. TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory or are exempted from listing.

OTHER U.S. FEDERAL REGULATIONS: None known

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): No ingredients in this product are on the Proposition 65 lists.

15.2 CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: Components are DSL Listed, NDSL Listed and/or are exempt from listing.

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product is classified per WHMIS 2015 Controlled Product Regulations.

15.3 EUROPEAN ECONOMIC COMMUNITY INFORMATION:

This product does not meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.

See Section 2 for Details

CHEMICAL SAFETY ASSESSMENT :

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

15.4 AUSTRALIAN INFORMATION FOR PRODUCT: Components of this product are listed on the International Chemical Inventory list.

15.5 JAPANESE INFORMATION FOR PRODUCT:

JAPAN INDUSTRIAL SAFETY AND HEALTH LAW: This product has been classified per the Japan Industrial Safety and Health Law. See Section 2 for the GHS Classification.

15.6 INTERNATIONAL CHEMICAL INVENTORIES:

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): Listed

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed

Swiss Giftliste List of Toxic Substances: Not Listed

U.S. TSCA: Listed

Mexican Inventory of chemical substances (NOM 010 STPS 2015): Listed

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SECTION 16. OTHER INFORMATION

PREPARED BY: Chris Eigbrett

MSDS to GHS Compliance
www.MSDStoGHS.com

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. Jiangsu Khonor Chemicals Co., Limited assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, Jiangsu Khonor Chemicals Co., Limited assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed.

REVISION HISTORY

January 25, 2023

- Updated to comply with 2020/878. Updates to Section 2, 9, 11, 12, 14, 16

END OF SDS SHEET