XI'AN LAND NUTRA CO.,LTD
Room 1202, Building 1, Vanke Huizhi Center, No. 56,
Xifeng Road, Yanta District, Xi'an City, Shaanxi Province,China

MATERIAL SAFETY DATA SHEET

1: Product Identification

1.1 Product Identifier

Product details: Vitamin D3 (Cholecalciferol)

Product Code: LN250725

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Use: Raw material for the manufacture of dietary supplements, food fortification, pharmaceutical preparations, animal feed, and cosmetic products.

Use Advised Against: Not for direct consumption as is. Not for medicinal use except in formulated preparations.

1.3 Details of the Supplier of the Safety Data Sheet

Supplier: Xi'an Land Nutra Co., Ltd.

Address: 12th Floor, Vanke Huizhi Center, Yanta District, Xi'an City, Shaanxi, China

Telephone: +86 187 9283 0256

Email: sale03@landnutra.com

2: Hazard Identification

2.1 Classification of the Substance or Mixture

GHS Classification: Not classified as hazardous according to Regulation (EC) No 1272/2008 (CLP).

2.2 Label Elements

Hazard Pictograms: Not applicable.

Signal Word: None.

Hazard Statements: None.

2.3 Other Hazards

Hypervitaminosis D： Chronic overexposure (ingestion) can lead to hypercalcemia, resulting in vascular and tissue calcification, and damage to the heart, blood vessels, and kidneys.

3: Composition / Information On Ingredients

3.1 Substance

Chemical Name: (3β,5Z,7E)-9,10-Secocholesta-5,7,10(19)-trien-3-ol

Synonyms: Cholecalciferol; Vitamin D3; Activated 7-Dehydrocholesterol

CAS No.: 67-97-0

EC No.: 200-673-2

Molecular Formula: $C_{27}H_{44}O$

Molecular Weight: 384.64 g/mol

Purity / Concentration: ≥ 97% (typical for pure substance; commercial forms are diluted).

4: First Aid Measures

4.1 Description of First Aid Measures

General Advice: Move to fresh air. Keep person warm and at rest. If feeling unwell, seek medical advice

Inhalation: Unlikely route of exposure. If dust is inhaled, remove to fresh air.

Skin Contact: Wash off with plenty of soap and water.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice.

Ingestion: Rinse mouth. Do NOT induce vomiting. Drink plenty of water. Get medical advice if discomfort occurs.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Acute: Nausea, vomiting, constipation, anorexia, weakness.

Chronic (Hypervitaminosis D): Hypercalcemia leading to polyuria, polydipsia, nephrocalcinosis, vascular calcification, hypertension, and renal failure.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. Monitor serum calcium levels in case of significant ingestion.

5: Fire Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Use water spray, foam, dry chemical powder, or carbon dioxide (CO_2).

5.2 Special Hazards Arising from the Substance or Mixture

Hazardous Combustion Products: Carbon monoxide (CO), carbon dioxide (CO_2), nitrogen oxides (NOx).

Explosion Hazard: Fine dust dispersed in air in sufficient concentrations can form explosive mixtures.

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and full protective suit. Cool containers exposed to flames with water spray.

6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Avoid dust formation. Wear personal protective equipment as specified in Section 8.

6.2 Environmental Precautions

Do not flush into surface water or sewer systems. Contain spillage to prevent environmental contamination.

6.3 Methods and Material for Containment and Cleaning Up

For Small Spills: Carefully sweep up or vacuum with an explosion-proof vacuum cleaner. Avoid creating dust. Place in a suitable sealed container for disposal.

For Large Spills: Absorb with inert material (sand, vermiculite). Collect spillage.

7: Handling and Storage

7.1 Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid inhalation of dust. Do not eat, drink, or smoke in areas where the material is handled. Use with adequate ventilation. Implement good industrial hygiene practices.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store under an inert atmosphere (nitrogen), in a tightly closed container, protected from light at 2-8°C (refrigerated). For pure substance, store at -20°C for long-term stability.

Incompatible Materials: Strong oxidizing agents, strong acids.

8: Exposure Control and Personal Protection

8.1 Control Parameters

Occupational Exposure Limits: Not established. As with any organic dust, maintain airborne concentrations below general dust limits (e.g., 10 mg/m³ as TWA for inhalable dust).

8.2 Exposure Controls

Engineering Measures: Use local exhaust ventilation at points of dust generation. Ensure adequate general ventilation.

Personal Protective Equipment (PPE):

Respiratory Protection: Use a dust mask (e.g., FFP2/N95) if adequate ventilation is not available or dust levels are high.

Hand Protection: Wear protective gloves (e.g., nitrile rubber).

Eye Protection: Wear safety goggles or a face shield.

Skin and Body Protection: Wear protective clothing to prevent skin contact.

9: Physical and Chemical Properties

Appearance: White to pale yellow crystals or crystalline powder.

Odor: Odorless.

Melting Point/Range: 84°C - 88°C

Flash Point: > 150°C (Not readily flammable)

Auto-ignition Temperature: Not determined.

Vapor Pressure: Negligible at 20°C.

Density: ~0.97 g/cm³

Solubility: Practically insoluble in water. Freely soluble in ethanol, acetone, chloroform, and fatty oils.

Partition Coefficient (n-octanol/water): log Pow: ~8-10 (Highly lipophilic)

10: Stability and Reactivity

10.1 Reactivity

Stable under recommended handling and storage conditions.

10.2 Chemical Stability

Very sensitive to light, oxygen, and heat. Decomposes on prolonged exposure to air or light.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

10.4 Conditions to Avoid

Light (especially UV), air (oxygen), heat (> 40°C), moisture.

10.5 Incompatible Materials

Strong oxidizing agents, strong acids.

10.6 Hazardous Decomposition Products

Thermal decomposition may produce carbon oxides and unidentified organic compounds.

11: Toxicological Information

Acute Toxicity:

Oral (Rat): LD_{50} ~ 42 mg/kg (Category 4, Harmful).

Dermal: Not classified as skin irritant.

Inhalation: Low hazard by inhalation due to low volatility and dustiness.

Skin Sensitization: Not expected to be a skin sensitizer.

Carcinogenicity: Not classified as carcinogenic by IARC, NTP, ACGIH, or EU.

Reproductive Toxicity: Not classified. However, hypervitaminosis D during pregnancy is teratogenic in animals.

Specific Target Organ Toxicity – Single Exposure (STOT SE): Category 2 (Oral): May cause damage to kidneys and cardiovascular system through single high-dose exposure or repeated lower-dose exposure.

Specific Target Organ Toxicity – Repeated Exposure (STOT RE): Organ damage (kidneys, cardiovascular system) is the critical effect of chronic overexposure (hypervitaminosis D).

12: Ecological Information

12.1 Toxicity

No data available. Due to high lipophilicity and low water solubility, potential for bioaccumulation.

12.2 Persistence and Degradability

Not readily biodegradable (expected).

12.3 Bioaccumulative Potential

High potential for bioaccumulation (High log Pow).

12.4 Mobility in Soil

Expected to adsorb strongly to soil and sediment due to low water solubility and high lipophilicity.

12.5 Other Adverse Effects

None known.

13: Disposal Considerations

13.1 Waste Treatment Methods

Product: Dispose of as non-hazardous chemical waste in accordance with all applicable local, regional, national, and international regulations. Incineration in a licensed facility is recommended.

Contaminated Packaging: Empty containers may retain product residue. Treat as product waste. Rinse thoroughly before recycling if permitted by local regulation.

14: Transport Information

Land Transport (ADR/RID): Not classified as dangerous goods.
Maritime Transport (IMDG): Not classified as dangerous goods.
Air Transport (IATA/ICAO): Not classified as dangerous goods.

15: Chemical safety assessment

A chemical safety assessment has been carried out for this substance under REACH.

16: Disclaimer

The information contained herein is based on data considered accurate and reliable. However, no warranty, express or implied, is given regarding the accuracy, reliability, or completeness of this information. It is the user's responsibility to determine safe conditions for use and to comply with all applicable laws and regulations.