

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Vitamin D2, Ergocalciferol

CAS NO.50-14-6

Supplier: Josun International Limited

SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS

Molecular formula	Molecular weight	Chemical Name	CAS#
C28H44O	396.7	(5Z,7E,22E)-9,10-Secoergosta-5,7,10(19),22-tetren-3 β -ol	50-14-6

SECTION 3-HAZARDS IDENTIFICATION

Possible teratogen. Possible risk of irreversible effects. Very toxic by inhalation, in contact with skin and if swallowed.

SECTION 4-FIRST AID MEASURES

EYES: Flush with water for 15 minutes. Seek medical advice if irritation persists.

SKIN: Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.

INHALATION: Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.

INGESTION: Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

SECTION 5-FIRE-FIGHTING MEASURES

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. Emits toxic fumes under fire conditions. Dry, free flowing dust may present a dust explosion hazard. NFPA Rating: H=3 F=0 R=1. Flash Point = No data available.

SECTION 6-ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. Collect in a manner that does not create dust and place in a suitable waste container. Avoid contact of material with skin ventilation.

SECTION 7-HANDLING AND STORAGE

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH-approved respirator. Avoid contact of material with skin or eyes. Use adequate ventilation. Caution: Material is light and air sensitive. Keep container tightly closed. Store in an airtight container, under nitrogen, protected from light, at a temperature between 2°C and 8°C.

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 general or local exhaust ventilation to keep airborne concentrations below the

permissible exposure limits. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ergocalciferol	none listed	none listed	none listed

OSHA Vacated PELs: Ergocalciferol: 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 prevent skin exposure. Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Crystalline powder

Appearance: white to yellow white

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Sublimes

Freezing/Melting Point: 115 - 119 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: Not available.

Molecular Formula: C₂₈H₄₄O

Molecular Weight: 396.65

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SECTION 10-STABILITY AND REACTIVITY

Product is stable under normal conditions. Decomposes on exposure to air and light. Avoid exposure to air and direct light. Hazardous decomposition products may include carbon oxides, acrid smoke and fumes. Incompatible with strong oxidizing agents, strong acids and strong bases. Hazardous polymerization will not occur.

SECTION 11-TOXICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE:

EYES: Contact may cause irritation and slight corneal injury.

SKIN: May be harmful if absorbed through the skin. Contact may cause irritation and/or allergic reaction.

INHALATION: May be harmful if inhaled. May cause irritation to mucous membranes and upper respiratory tract.

INGESTION: May be fatal if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause weight loss and irritability. Symptoms include weakness, fatigue, lassitude, and headache. Mental dullness and coma may develop. Impairs kidney function, including excessive thirst and urination. Causes calcification in cornea and conjunctiva in form of band keratopathy. Mimics hyperparathyroidism with muscular weakness, nervousness, itching, and hypertension.

TARGET ORGAN(S): Kidneys.

ADDITIONAL INFORMATION:

Chronic exposure may cause reproductive disorders and teratogenic effects. Vitamin D ingested in excess results in hypercalcemia, which is caused by excessive absorption of massive quantities of calcium by the intestine and enhanced bone resorption. Causes impairment of kidneys including excessive thirst and urination, nocturia, proteinuria, and decreased urinary concentration ability.

Reproductive and toxicity data listed in RTECS under KE1050000.

Oral rat LD50 = 10mg/kg (1986). Details of toxic effects not reported other than lethal dose value.

Reproductive: Specific Developmental Abnormalities - Central Nervous System, craniofacial and musculoskeletal system (1976).

Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus) (1980).

Fertility - abortion (1979).

Definitions: RTECS = Registry of Toxic Effects of Chemical Substances.

SECTION 12- ECOLOGICAL INFORMATION

No information available.

SECTION 13-DISPOSAL CONSIDERATIONS

Dispose of material in accordance with applicable local, state, and federal regulations.

SECTION 14-TRANSPORTATION INFORMATION

US DOT / IATA: Toxic solid, organic, n.o.s (Ergocalciferol), class 6.1, UN2811, PG II. Label: Toxic.

SECTION 15-REGULATORY INFORMATION

RCRA - No applicable information.

SARA 302 - Extremely hazardous waste. TPQ=1000/10000 lbs. RQ=1000 lbs.

SARA 313 -This material is not reportable under Section 313.

EPA TSCA Section 8(b) - Chemical Inventory.

Exposure Limits - Not established. California Proposition 65 - No applicable information.

SECTION 16-OTHER INFORMATION

Pharmacopoeia references: USP40

Date: May.16,2019

For and on behalf of
JOSUN INTERNATIONAL LIMITED
九勝國際有限公司

Signature(s)

AL. LIMITED
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Signature(s)