Section 1 - Product and Company Information

Product Name: CHOLECALCIFEROL CRYSTALLINE  
Product Number: C9756  
Brand: SIGMA  
Company: Sigma-Aldrich Canada, Ltd  
Street Address: 2149 Winston Park Drive  
City, State, Zip, Country: Oakville ON L6H 6J8 CA  
Technical Phone: 9058299500  
Emergency Phone: 800-424-9300  
Fax: 9058299292

Section 2 - Composition/Information on Ingredient

Substance Name: (+)-VITAMIN D/3, CRYSTALLINE, 99+%  
CAS #: 67-97-0  
SARA 313: No  
Formula: C27H44O  
Synonyms: Arachitol * Calciol * Cholecalciferol * Cholecalciferol, D3 * Colecalciferol * 7-Dehydrocholestrol, activated * Delsterol * Deparal * D3-Vigantol * Oleovitamin D3 * Quintox * Ricketon * Rampage * Vigorsan * Trivitan * Vitamin D3 * Vitinc dan-dee-3  
RTECS Number: VS2900000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW:  
Highly Toxic (USA) Toxic (EU). May impair fertility. Possible risk of harm to the unborn child. Toxic if swallowed. Target organ(s): Kidneys. Heart.

HMIS RATING:  
HEALTH: 3*  
FLAMMABILITY: 0  
REACTIVITY: 0

NFPA RATING:  
HEALTH: 3  
FLAMMABILITY: 0  
REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE:  
If swallowed, wash out mouth with water provided person is
conscious. Call a physician immediately.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.
Store at 2-8°C

Section 8 - Exposure Controls / PPE
ENGINEERING CONTROLS
Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Color: White</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Form: Fine crystals</td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
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<td></td>
</tr>
<tr>
<td>pH</td>
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<tr>
<td>BP/BP Range</td>
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<tr>
<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
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<td>Saturated Vapor Conc.</td>
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<td>Bulk Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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<tr>
<td>Water Content</td>
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<td>Solvent Content</td>
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<td>Decomposition Temp.</td>
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<td>Explosion Limits</td>
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<td>Flammability</td>
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<td>Autoignition Temp</td>
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<td>Optical Rotation</td>
<td>Degree of Rotation: 20 g/l Solvent: EtOH +129 - +109 (+/-3)</td>
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<td>Miscellaneous Data</td>
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<td>Solubility</td>
<td>Solubility in Water:0.1 mg/ml H2O Solvent: Soluble. Other Solvents: ETHER, ETHANOL, VEGETABLE OI</td>
<td></td>
</tr>
</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Light. Air.
Materials to Avoid: Strong oxidizing agents, Acid chlorides, Acid anhydrides.
HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)
Kidneys. Heart.

TOXICITY DATA
Oral
Rat
35 mg/kg
35-47
LD50
Skin
Rat
61 mg/kg
61-185
LD50
Inhalation
Rat
130 mg/kg
130-380
LC50
Subcutaneous
> 10 mg/kg
Oral
Rabbit
Oral
Rat
42 mg/kg
LD50
Oral
Mouse
42.5 mg/kg
LD50
Intraperitoneal
Mouse
136 MG/KG
LD50
Oral
Dog
80 mg/kg
LD50
Behavioral: Change in motor activity (specific assay).
Gastrointestinal: Other changes.
CHRONIC EXPOSURE - TERATOGEN
Result: Possible risk of congenital malformation in the fetus.

Species: Rat
Dose: 90 MG/KG
Route of Application: Subcutaneous
Exposure Time: (12-20D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD
Result: May cause reproductive disorders.

Section 12 - Ecological Information
No data available.

Section 13 - Disposal Considerations
APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information
DOT
Proper Shipping Name: Toxic solids, organic, n.o.s.
UN#: 2811
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Toxic substances.
PIH: Not PIH

IATA
Proper Shipping Name: Toxic solid, organic, n.o.s.
IATA UN Number: 2811
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information
EU ADDITIONAL CLASSIFICATION
Symbol of Danger: T
Indication of Danger: Toxic.
R: 25
Risk Statements: Toxic if swallowed.
S: 45
Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Highly Toxic (USA) Toxic (EU).
Risk Statements: May impair fertility. Possible risk of harm to the unborn child. Toxic if swallowed.
Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wear suitable protective clothing, gloves, and eye/face protection.
US Statements: Target organ(s): Kidneys. Heart.
UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.