

## Chemical Safety Data Sheet MSDS / SDS

## Vitamin D3

Revision Date:2024-05-25 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Vitamin D3  
CBnumber : CB6104867  
CAS : 67-97-0  
EINECS Number : 200-673-2  
Synonyms : Cholecalciferol,Vitamin D3

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P405 Store locked up.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P337+P313 IF eye irritation persists: Get medical advice/attention.  
P330 Rinse mouth.  
P320 Specific treatment is urgent (see ... on this label).  
P310 Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.  
P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P284 Wear respiratory protection.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

#### **Hazard statements**

H372 Causes damage to organs through prolonged or repeated exposure

H330 Fatal if inhaled

H319 Causes serious eye irritation

H311 Toxic in contact with skin

H301 Toxic if swallowed

H225 Highly Flammable liquid and vapour

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## SECTION 3: Composition/information on ingredients

### **Substance**

|              |                                     |
|--------------|-------------------------------------|
| Product name | : Vitamin D3                        |
| Synonyms     | : Cholecalciferol, Vitamin D3       |
| CAS          | : 67-97-0                           |
| EC number    | : 200-673-2                         |
| MF           | : C <sub>27</sub> H <sub>44</sub> O |
| MW           | : 384.64                            |

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor

#### **If inhaled**

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### **In case of eye contact**

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### **If swallowed**

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

### **Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

## Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Carbon oxides Combustible.

Risk of dust explosion.

Development of hazardous combustion gases or vapours possible in the event of fire.

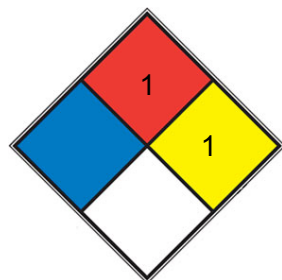
### Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

### NFPA 704



■ HEALTH

Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion

■ FIRE 1 can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

■ REACT 1 Normally stable, but can become unstable at elevated temperatures and pressures (e.g. [propene](#))

□ SPEC.

□ HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **Environmental precautions**

Do not let product enter drains.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

#### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

#### **Storage stability**

Recommended storage temperature 2 - 8 °C

#### **Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **control parameter**

#### **Hazard composition and occupational exposure limits**

Does not contain substances with occupational exposure limits.

## Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatil? L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatil? L

#### Body Protection

protective clothing

#### Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P3

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

#### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

|   |  |
|---|--|
| Appearance                              | white crystalline                      |
| Odour                                   | odorless                               |
| Odour Threshold                         | Not applicable                         |
| pH                                      | No data available                      |
| Melting point/freezing point            | Melting point/range: 83 - 86 °C - lit. |
| Initial boiling point and boiling range | 451.27°C (rough estimate)              |
| Flash point                             | Not applicable                         |

|  |  |
|--|--|
| Evaporation rate                             | No data available  |
| Flammability (solid, gas)                    | No data available  |
| Upper/lower flammability or explosive limits | No data available  |
| Vapour pressure                              | 2.0 x 10 <sup>-6</sup> Pa (20 °C, est.)  |
| Vapour density                               | No data available  |
| Relative density                             | No data available  |
| Water solubility                             | Practically insoluble in water, freely soluble in ethanol (96 per cent), soluble in trimethylpentane and in fatty oils. It is sensitive to air, heat and light. Solutions in solvents without an antioxidant are unstable and are to be used immediately. A reversible isomerisation to pre-cholecalciferol takes place in solution, depending on temperature and time. The activity is due to both compounds. |
| Partition coefficient: n-octanol/water       | log Pow: 10,24 - Potential bioaccumulation, (Lit.)   |
| Autoignition temperature                     | No data available  |
| Decomposition temperature                    | No data available  |
| Viscosity                                    | Viscosity, kinematic: No data available Viscosity, dynamic: No data available  |
| Explosive properties                         | No data available  |
| Oxidizing properties                         | No data available  |

### Other safety information

No data available

## SECTION 10: Stability and reactivity

### Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Violent reactions possible with: Oxidizing agents

Acid anhydrides acid halides acids

### Conditions to avoid

Air Light.

no information available

### Incompatible materials

No data available

### Hazardous decomposition products

## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 35 mg/kg

(OECD Test Guideline 401)

Remarks: (Regulation (EC) No 1272/2008, Annex VI) LC50 Inhalation - Rat - 4 h - 0,13 - 0,38 mg/l Remarks: (Regulation (EC) No 1272/2008, Annex VI)

LD50 Dermal - Rat - male - 61 mg/kg (OECD Test Guideline 402)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation Remarks: (External MSDS)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation Remarks: (External MSDS)

#### Respiratory or skin sensitization

Remarks: (External MSDS)

#### Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium Method: OECD Test Guideline 471

Result: positive

Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster lung cells

Method: OECD Test Guideline 473 Result: negative

Test system: Mouse lymphoma test Method: OECD Test Guideline 476 Result: negative

Test Type: Micronucleus test Species: Rat

Cell type: Bone marrow

Method: OECD Test Guideline 474 Result: negative

#### Carcinogenicity

No data available

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

Ingestion - Causes damage to organs through prolonged or repeated exposure. Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Aspiration hazard

No data available

#### Toxicity

LD50 oral in rat: 42mg/kg

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## SECTION 12: Ecological information

### Toxicity

No data available

#### Toxicity to daphnia and other aquatic invertebrates

NOEC - Daphnia magna (Water flea) - 100 mg/l - 48 h (OECD Test Guideline 202)

Remarks: (above the solubility limit in the test medium)

#### Toxicity to algae

NOEC - Pseudokirchneriella subcapitata (green algae) - 100 mg/l - 96 h

(OECD Test Guideline 201)

Remarks: (above the solubility limit in the test medium)

#### Toxicity to bacteria

EC10 - Pseudomonas putida - > 10.000 mg/l - 30 min Remarks: (above the solubility limit in the test medium) (External MSDS)

### Persistence and degradability

Biodegradability Result: < 7 % - Not readily biodegradable.

(OECD Test Guideline 301C)

### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### Waste treatment methods

### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

### Incompatibilities

Sensitive to air, light, and moisture. Incompatible with oxidizers (chlorates, nitrates, peroxides, permanganates, perchlorates, chlorine, Chemical Book



bromine, fluorine, etc.); contact may cause fires or explosions. Keep away from alkaline materials, strong bases, strong acids, oxoacids, epoxides.

### Waste Disposal

Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal, aquatic, and plant life; and conformance with environmental and public health regulations.

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## SECTION 14: Transport information

### UN number

ADR/RID: 2811 IMDG: 2811 IATA: 2811

### UN proper shipping name

ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (Vitamin D3) IMDG: TOXIC SOLID, ORGANIC, N.O.S. (Vitamin D3)

IATA: Toxic solid, organic, n.o.s.  
(Vitamin D3)

|      |  |              |
|------|--|--------------|
| 14.3 | Transport hazard class(es)<br>ADR/RID: 6.1 IMDG: 6.1           | IATA:<br>6.1 |
| 14.4 | Packaging group<br>ADR/RID: II IMDG: II                        | IATA: II     |
| 14.5 | Environmental hazards<br>ADR/RID: no IMDG Marine pollutant: no | IATA:<br>no  |
| 14.6 | Special precautions for user<br>No data available              |              |

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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

EC Inventory:Listed.

## SECTION 16: Other information

### Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

### References

- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.