

Safety Data Sheet

according to UK REACH Regulation

Vitamin D3-(26,26,26,27,27,27-d6)

Revision: 04.11.2025

Product code: LS-3740

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Vitamin D3-(26,26,26,27,27,27-d6)

Further trade names

Cholecalciferol-d6

7-Dehydrocholesterol activated-d6, activated 7-dehydrocholesterol-d6

Calciol-d6

(1S,Z)-3-((E)-2-((7aR)-7a-methyl-1-((R)-6-

(trideuteromethyl)-7,7,7-trideuteroheptan-2-yl) dihydro-1H-inden-4(2H,5H,6H,7H,7aH)-ylidene)ethylidene)-4-methylidenecyclohexanol

Substance name: Vitamin D3 (26,26,26,27,27,27-d6)

CAS No: 118584-54-6

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Laboratory chemical. Manufacture of the substance.

Uses advised against

Do not use for private purposes (household).

Restrictions on use: Pharmaceutical substance

1.3. Details of the supplier of the safety data sheet

Company name:	Iris Biotech GmbH	
Street:	Adalbert-Zoellner-Straße 1	
Place:	D-95615 Marktredwitz, Germany	
Telephone:	+49 9231 97121 0	Telefax: +49 9231 97121 99
E-mail:	info@iris-biotech.de	
Contact person:	Health & Safety Department	Telephone: +49 9231 97121 0
E-mail:	sds@iris-biotech.de	
Internet:	www.iris-biotech.de	
Responsible Department:	Only available during office hours.	

1.4. Emergency telephone number: +49 (0)89 19240 (POISON CENTER Munich: 24 h)**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Acute Tox. 2; H330

Acute Tox. 2; H310

Acute Tox. 2; H300

STOT RE 1; H372

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Signal word:** Danger**Pictograms:**

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Hazard statements

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
 H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310 Immediately call a POISON CENTER/doctor.
 P314 Get medical advice/attention if you feel unwell.

Additional advice on labelling

Warning - substance not yet tested completely.

2.3. Other hazards

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.
 The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients
3.1. Substances
Chemical characterization

Cholecalciferol-d6

Sum formula: C₂₇H₃₈D₆O
 Molecular weight: 390,67 g/mol g/mol

Relevant ingredients

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (GB CLP Regulation)	
118584-54-6	Vitamin D3 (26,26,26,27,27,27-d6)	100 %
	Acute Tox. 2, Acute Tox. 2, Acute Tox. 2, STOT RE 1; H330 H310 H300 H372	

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
118584-54-6		Vitamin D3 (26,26,26,27,27,27-d6)	100 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: LC50 = 0,05 mg/l (dusts or mists); dermal: LD50 = 50 mg/kg; oral: LD50 = 35 mg/kg	

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

First aider: Pay attention to self-protection! Show this safety data sheet to the doctor in attendance.

After inhalation

Provide fresh air. Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

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After contact with skin

Take off contaminated clothing. Rinse skin with water or shower. Call a physician immediately.

After contact with eyes

Rinse cautiously with water for several minutes. Consult an ophthalmologist. Remove contact lenses.

After ingestion

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. Do not attempt to neutralise.

4.2. 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.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Water, Foam, Carbon dioxide (CO₂), Extinguishing powder

Unsuitable extinguishing media

For this substance / mixture no limitations of extinguishing agents.

5.2. Special hazards arising from the substance or mixture

Carbon oxides

Combustible

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

5.3. 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.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses.

Usual measures for fire prevention.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Absolutely avoid dust development and inhalation of dust. Avoid substance contact. Provide adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Personal protection equipment: see section 8

For non-emergency personnel

Absolutely avoid dust development and inhalation of dust. Avoid substance contact. Provide adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Personal protection equipment: see section 8

For emergency responders

Absolutely avoid dust development and inhalation of dust. Avoid substance contact. Provide adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

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For containment

Seal sewers. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7.2 and 10.5). Take up carefully when dry. Dispose of properly. Clean up affected area. Avoid generation of dust.

For cleaning up

Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal.

Other information

Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation.
Clear contaminated areas thoroughly.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

Treat the recovered material as prescribed in the section on waste disposal.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Provide adequate ventilation.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid contact with skin, eyes and clothes.
Work under a hood. Do not breathe substance/mixture.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Immediately remove any contaminated clothing, shoes or stockings. Skin protection After work, wash hands and face. Information on protective measures can be found in Section 2.2.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.
Handle and store contents under inert gas. Protect from moisture.
storage temperature: -20 °C

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.

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Individual protection measures, such as personal protective equipment**Eye/face protection**

For eye protection, only use equipment that has been tested and approved to government standards such as NIOSH (US) or EN 166 (EU). Safety goggles.

Hand 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.

Glove material: nitrile rubber, glove thickness: 0.11 mm, Breakthrough time:> 480 min

Skin protection

Use of protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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.

Thermal hazards

No data available

Environmental exposure controls

Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid	
Colour:	white/ whitish	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		83-86 °C
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not applicable
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value:		not determined
Viscosity / kinematic:		not applicable
Water solubility:		No data available
Solubility in other solvents		not determined
Dissolution rate:		No data available
Partition coefficient n-octanol/water:	log Pow:10,24	Bioaccumulative potential
Dispersion stability:		No data available

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Vapour pressure:	not determined
Density:	not determined
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	not determined
Particle characteristics:	not determined

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive.

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

not applicable

Oxidizing properties

none

Other safety characteristics

Solvent content:

No data available

Viscosity / dynamic:

not applicable

Flow time:

not applicable

SECTION 10: Stability and reactivity**10.1. Reactivity**

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

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Violent reaction with:

Oxidizing agent

acid anhydride

Acid halides

Acids

10.4. Conditions to avoid

Protect from moisture.

Keep away from heat.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

Thermal decomposition can lead to the escape of irritating gases and vapours.

In case of fire may be liberated: Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrogen oxides (NO_x).**Further information**

In case of fire: See chapter 5.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

No data available

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Acute toxicity

Fatal if inhaled.
Fatal in contact with skin.
Fatal if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
118584-54-6	Vitamin D3 (26,26,26,27,27,27-d6)				
	oral	LD50 35 mg/kg			
	dermal	LD50 50 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	LC50 0,05 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

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.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure. (Vitamin D3 (26,26,26,27,27,27-d6))

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Practical experience

No data available

11.2. Information on other hazards**Endocrine disrupting properties**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other information

The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

Further information

RTECS: No data available

To our knowledge, the chemical, physical and toxicological properties have not been extensively studied.
Handle in accordance with good industrial hygiene and safety practice.

Hypercalcaemia

After absorption:

Diarrhea, Ataxia (movement coordination disorders), Headache, Stomach/intestinal disorders, Cardiac

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arrhythmias, muscle weakness

If exposed to the chemical for a long period of time:

 Hypercalcaemia
 tissue damage

This substance should be handled with particular care. Other dangerous properties can not be excluded.

SECTION 12: Ecological information
12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
118584-54-6	Vitamin D3 (26,26,26,27,27,27-d6)					
	Algae toxicity	NOEC 100 mg/l	4 d	Pseudokirchneriella subcapitata		OECD 201
	Crustacea toxicity	NOEC 100 mg/l	2 d	Daphnia magna (Big water flea)		OECD 202
	Acute bacteria toxicity	EC50 10000 mg/l ()	0,5 h	Pseudomonas putida		

12.2. Persistence and degradability

Not readily biodegradable (according to OECD criteria)

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
118584-54-6	Vitamin D3 (26,26,26,27,27,27-d6)				
	Biodegradability:	< 7%		OECD 301C	

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

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.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

Warning - substance not yet tested completely.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations
13.1. Waste treatment methods

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Disposal recommendations

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Do not mix with other wastes.

Contaminated packaging

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 2811
14.2. UN proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Cholecalciferol-d6)
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Classification code:	T2
Special Provisions:	274 614
Limited quantity:	500 g
Excepted quantity:	E4
Transport category:	2
Hazard No:	60
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2811
14.2. UN proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Cholecalciferol-d6)
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Classification code:	T2
Special Provisions:	274 614 802
Limited quantity:	500 g
Excepted quantity:	E4

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2811
14.2. UN proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Cholecalciferol-d6)
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Special Provisions:	274
Limited quantity:	500 g
Excepted quantity:	E4
EmS:	F-A, S-A

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Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2811
14.2. UN proper shipping name:	TOXIC SOLID, ORGANIC, N.O.S. (Cholecalciferol-d6)
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Special Provisions:	A3 A5
Limited quantity Passenger:	1 kg
Passenger LQ:	Y644
Excepted quantity:	E4
IATA-packing instructions - Passenger:	669
IATA-max. quantity - Passenger:	25 kg
IATA-packing instructions - Cargo:	676
IATA-max. quantity - Cargo:	100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Acute Toxicity.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

Other applicable information

Hazchem code: 2X

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information

Information according to Directive 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 3 - highly hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information
Changes

This data sheet contains changes from the previous version in section(s): 1,2,4,5,6,7,8,9,10,11,12,13,14,15,16.

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Abbreviations and acronyms

Acute Tox. 2: Acute toxicity, hazard category 2
STOT RE 1: Specific target organ toxicity - repeated exposure, hazard category 1
ADR: Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road).
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

Relevant H and EUH statements (number and full text)

H300	Fatal if swallowed.
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product

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named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.