

## Safety Data Sheet

**CALCITRIOL**
**EFFECTIVE DATE: 2014-09-24**

### 1 Product and Company Identification

- |                                       |  |
|---------------------------------------|--|
| <b>1.1 Product Name:</b>              | Calcitriol   |
| <b>1.2 Product Identifier:</b>        | Calcitriol   |
| <b>1.3 Catalog Number:</b>            | 72412  |
| <b>1.4 Synonyms:</b>                  | 1 $\alpha$ ,25-dihydroxy Vitamin D3; 9,10-secocholesta-5Z,7E,10(19)-triene-1 $\alpha$ ,3 $\beta$ ,25-triol |
| <b>1.5 Product Use:</b>               | Laboratory Chemical  |
| <b>1.6 Manufacturer/Supplier:</b>     | STEMCELL Technologies<br>Suite 500-1618 Station Street<br>Vancouver, British Columbia V6A 1B6 Canada       |
| <b>1.7 In Case of Emergency Call:</b> | 1-800-667-0322   |

### 2 Hazards Identification

#### 2.1 Classification of the substance or mixture

Acute Toxicity: Inhalation, Category 1  
 Acute Toxicity: Oral, Category 1  
 Acute Toxicity: Skin, Category 2  
 Toxic To Reproduction, Category 2  
 Aquatic Toxicity (Chronic), Category 3

#### 2.2 Label elements

##### Pictogram



**Signal word**                      Danger

##### Hazard statement(s)

|      |  |
|------|--|
| H330 | Fatal if inhaled.                                    |
| H300 | Fatal if swallowed.                                  |
| H310 | Fatal in contact with skin.                          |
| H361 | Suspected of damaging fertility or the unborn child. |
| H412 | Harmful to aquatic life with long lasting effects.   |

##### Precautionary statement(s)

|      |  |
|------|--|
| P260 | Do not breathe {dust/fume/gas/mist/vapours/spray}.                           |
| P284 | {In case of inadequate ventilation,} wear respiratory protection {}.         |
| P264 | Wash {hands} thoroughly after handling.                                      |
| P262 | Do not get in eyes, on skin, or on clothing.                                 |
| P280 | Wear {protective gloves/protective clothing/eye protection/face protection}. |
| P270 | Do not eat, drink or smoke when using this product.                          |

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|          |  |
|----------|--|
| P361     | Take off immediately all contaminated clothing and wash it before reuse.                         |
| P201     | Obtain special instructions before use.  |
| P202     | Do not handle until all safety precautions have been read and understood.                        |
| P281     | Use personal protective equipment as required.   |
| P273     | Avoid release to the environment.  |
| P304+340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P310     | Immediately call a {POISON CENTER/doctor/...}.   |
| P301+310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.                              |
| P330     | Rinse mouth.   |
| P361     | Take off immediately all contaminated clothing.  |
| P302+350 | IF ON SKIN: Gently wash with plenty of soap and water.   |
| P321     | Specific treatment {see ... on this label}.  |
| P308+313 | IF exposed or concerned: Get medical attention/advice.   |

**2.3 Other hazards** No data available

### 3 Composition / Information on Ingredients

| Hazardous Components (Chemical Name) | CAS #      | Concentration | EC #      |
|--------------------------------------|------------|---------------|-----------|
| Calcitriol                           | 32222-06-3 | 100%          | 250-963-8 |

### 4 First Aid Measures

#### 4.1 Description of first aid measures

##### 4.1.1 If inhaled

Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

##### 4.1.2 In case of skin contact

Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

##### 4.1.3 In case of eye contact

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

##### 4.1.4 If swallowed

Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

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

Exposure may cause: burning sensation, coughing, headache, laryngitis, shortness of breath, nausea, wheezing, and vomiting.

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The toxicological properties of this product have not been fully evaluated.

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

No data available

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**5 Fire Fighting Measures****5.1 Extinguishing Media****5.1.1 Suitable Extinguishing Media**

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Use water spray to cool fire-exposed containers.

**5.1.2 Unsuitable Extinguishing Media**

A solid water stream may be inefficient.

**5.2 Special hazards arising from the substance or mixture****5.2.1 Flammable Properties and Hazards**

No data available

**5.2.2 Flash Pt**

No data available

**5.2.3 Autoignition Pt**

No data available

**5.2.4 Explosive Limits**

LEL: No data available

UEL: No data available

**5.2.5 Hazardous Combustion Products**

No data available

**5.3 Fire Fighting Instructions**

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

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**6 Accidental Release Measures****6.1 Personal precautions, protective equipment and emergency procedures**

Avoid raising and breathing dust, and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved (or equivalent) self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

**6.2 Environmental precautions**

Take steps to avoid release into the environment, if safe to do so.

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

Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

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### 7 Handling and Storage

#### 7.1 Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

#### 7.2 Conditions for safe storage

Keep container tightly closed.

Store in accordance with information listed on the product insert.

### 8 Exposure Controls/Personal Protection

#### 8.1 Exposure limits

| Component  | CAS #      | Value             | Control parameters |
|------------|------------|-------------------|--------------------|
| Calcitriol | 32222-06-3 | No data available | No data available  |

#### 8.2 Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

#### 8.3 Personal protective equipment

##### 8.3.1 Eye/face protection

Safety glasses

##### 8.3.2 Skin protection

Compatible chemical-resistant gloves

Lab coat

##### 8.3.3 Respiratory protection

NIOSH (US) or CEN (EU) approved respirator, as conditions warrant.

##### 8.3.4 General hygiene considerations

Do not take internally.

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Wash thoroughly after handling.

##### 8.3.5 Environmental exposure controls

No data available

### 9 Physical and Chemical Properties

#### 9.1 Information on basic physical and chemical properties

|                              |                     |
|------------------------------|---------------------|
| Appearance                   | A crystalline solid |
| Odour                        | No data available   |
| Odour threshold              | No data available   |
| Melting point/freezing point | No data available   |
| Boiling point/boiling range  | No data available   |
| Decomposition temperature    | No data available   |

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|  |                   |
|--|-------------------|
| Relative density                             | No data available |
| Solubility in water                          | No data available |
| Solubility in other liquids                  | ~1 mg/mL in EtOH  |
| pH   | No data available |
| Partition coefficient: n-octanol/water       | No data available |
| Viscosity                                    | No data available |
| Vapour pressure                              | No data available |
| Vapour density                               | No data available |
| Evaporation rate                             | No data available |
| Flash point                                  | No data available |
| Flammability (solid, gas)                    | No data available |
| Upper/lower flammability or explosive limits | No data available |
| Auto-ignition temperature                    | No data available |

**9.2 Other information**

|                   |  |
|-------------------|--|
| Molecular formula | C <sub>27</sub> H <sub>44</sub> O <sub>3</sub> |
| Molecular weight  | 416.6  |

**10 Stability and Reactivity**

|  |  |
|--|--|
| <b>10.1 Reactivity</b>                         | No data available  |
| <b>10.2 Chemical stability</b>                 | Stable   |
| <b>10.3 Possibility of hazardous reactions</b> | No data available  |
| <b>10.4 Conditions to avoid</b>                | No data available  |
| <b>10.5 Incompatible materials</b>             | Acid anhydrides<br>Acid chlorides<br>Strong oxidizing agents |
| <b>10.6 Hazardous decomposition products</b>   | Carbon dioxide<br>Carbon monoxide                            |

**11 Toxicological Information**
**11.1 Acute toxicity**

Toxicity Data: Oral LD50 (rat): 620 µg/kg; Intraperitoneal LD50 (rat): >5 mg/kg; Subcutaneous LD50 (rat): 66 µg/kg; Oral LD50 (mouse): 1350 µg/kg; Intraperitoneal LD50 (mouse): 1900 µg/kg; Subcutaneous LD50 (mouse): 145 µg/kg

**11.2 Skin corrosion/irritation**

No data available

**11.3 Serious eye damage/eye irritation**

No data available

**11.4 Aspiration hazard**

No data available

**11.5 Specific target organ toxicity - single exposure**

No data available

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**11.6 Specific target organ toxicity - repeated exposure**

No data available

**11.7 Respiratory and/or skin sensitization**

No data available

**11.8 Carcinogenicity**

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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**11.9 Reproductive toxicity**

No data available

**11.10 Germ cell mutagenicity**

No data available

**11.11 Signs and symptoms of exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**11.12 RTECS #** FZ4645000

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**12 Ecological Information**
**12.1 Toxicity**

 Avoid release into the environment.  
 Runoff from fire control or dilution water may cause pollution.

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Other adverse effects**

No data available

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**13 Disposal Considerations**
**13.1 Waste disposal method**

Dispose in accordance with local, provincial/state, and federal regulations.

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**14 Transport Information**
**14.1 UN number**

|         |                   |
|---------|-------------------|
| DOT     | 2811              |
| ADR/RID | 2811              |
| IMDG    | No data available |
| IATA    | 2811              |

**14.2 UN proper shipping name**

|         |  |
|---------|--|
| DOT     | Toxic solids, organic, n.o.s. (Calcitriol) |
| ADR/RID | Toxic solids, organic, n.o.s. (Calcitriol) |
| IMDG    | No data available                          |
| IATA    | Toxic solids, organic, n.o.s. (Calcitriol) |

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|   |   |                   |
|---|---|-------------------|
| <b>14.3 Transport hazard class(es)</b>        | DOT   | 6.1 - POISON      |
|   | ADR/RID   | 6.1 - POISON      |
|   | IMDG  | No data available |
|   | IATA  | 6.1 - POISON      |
| <b>14.4 Packing group</b>                     | DOT   | I                 |
|   | ADR/RID   | I                 |
|   | IMDG  | No data available |
|   | IATA  | I                 |
| <b>14.5 Environmental hazards</b>             | No data available   |                   |
| <b>14.6 Special precautions</b>               | No data available   |                   |
| <b>14.7 Additional Transport Information:</b> | When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity. |                   |

## 15 Regulatory Information

### 15.1 US EPA SARA Title III

| Hazardous Components (Chemical Name) | CAS #      | Sec.302 (EHS) | Sec.304 RQ | Sec.313 (TRI) |
|--------------------------------------|------------|---------------|------------|---------------|
| Calcitriol                           | 32222-06-3 | No            | No         | No            |

### 15.2 Other US EPA or State Lists

| Hazardous Components (Chemical Name) | CAS #      | CAA HAP, ODC | CWA NPDES | TSCA | CA PROP.65 |
|--------------------------------------|------------|--------------|-----------|------|------------|
| Calcitriol                           | 32222-06-3 | No           | No        | No   | No         |

### 15.3 Regulatory information statement

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

### 15.4 WHMIS Classification

D1A Very Toxic Material Causing Immediate and Serious Toxic Effects  
 WHMIS compliant label available upon request

## 16 Other Information

- 16.1 Prepared by:** Quality Control, STEMCELL Technologies Inc.
- 16.2 Revision:** N/A
- 16.3 Notice:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product. The information contained in this Safety Data Sheet (SDS) is current as of the Effective Date shown in this document and may be subject to amendment by STEMCELL Technologies Inc.

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**16.4 Disclaimer: THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.**