Budesonide

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 15407
1.2 Relevant identified uses of the substance or mixture and uses advised against:

1.3 Details of the Supplier of the Safety Data Sheet:

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI  48108

Web site address: www.caymanchem.com

Information: Cayman Chemical Company +1  (734)971-3335

1.4 Emergency telephone number:

Emergency Contact: CHEMTREC Within USA and Canada: +1  (800)424-9300
CHEMTREC Outside USA and Canada: +1  (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:
2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:

Acute Toxicity: Inhalation, Category 4
Acute Toxicity: Skin, Category 4
Respiratory Sensitization, Category 1
Skin Sensitization, Category 1
Toxic To Reproduction, Category 2

2.1.2 Classification according to Directive 1999/45/EC:

T: Toxic
Reproductive Hazard: 2
Risk Phrases: R20/21, R42, R43, R62, R63
For full text of R-phrases: see SECTION 15.

2.2 Label Elements:
2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Danger

GHS Hazard Phrases:
H332: Harmful if inhaled.
H312: Harmful in contact with skin.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317: May cause an allergic skin reaction.
H361: Suspected of damaging fertility or the unborn child.
Budesonide
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GHS Precaution Phrases:
P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
P362+364: Take off contaminated clothing and wash it before reuse.
P284: {In case of inadequate ventilation, }wear respiratory protection {}.
P272: Contaminated work clothing should not be allowed out of the workplace.
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.

GHS Response Phrases:
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a {POISON CENTER/doctor/...} if you feel unwell.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment {see ... on this label}.
P304+341: IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342+311: If experiencing respiratory symptoms call a POISON CENTER or doctor/physician.
P333+313: If skin irritation or rash occurs, seek medical advice/attention.
P308+313: IF exposed or concerned: Get medical attention/advice.

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.2.2 Labeling according to Directive 1999/45/EC:

Reproductive Hazard: 2

2.3 Adverse Human Health Effects and Symptoms:

Harmful if inhaled.
Harmful in contact with skin.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by ingestion.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause eye, skin, or respiratory system irritation.
Suspected of damaging fertility or the unborn child.

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

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>Risk Phrases/ GHS Classification</th>
</tr>
</thead>
</table>
Section 4. First Aid Measures

4.1 Description of First Aid Measures:

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

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.

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.

In Case of Ingestion: 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.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:
Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media:
A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards:

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

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.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:
Avoid raising and breathing dust, and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved 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 Material For Containment and Cleaning:
Contain spill and collect, as appropriate.

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

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:
Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing:
Keep container tightly closed.

Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>51333-22-3</td>
<td>Budesonide</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

Multi-region format
### Section 9. Physical and Chemical Properties

#### 9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical States</td>
<td>[ ] Gas  [ ] Liquid  [ X ] Solid</td>
</tr>
<tr>
<td>Appearance and Odor</td>
<td>A crystalline solid</td>
</tr>
<tr>
<td>Melting Point</td>
<td>No data</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data</td>
</tr>
<tr>
<td>Flash Pt</td>
<td>No data</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>LEL: No data  UEL: No data</td>
</tr>
<tr>
<td>Vapor Pressure (vs. Air or mm Hg)</td>
<td>No data</td>
</tr>
<tr>
<td>Vapor Density (vs. Air = 1)</td>
<td>No data</td>
</tr>
<tr>
<td>Specific Gravity (Water = 1)</td>
<td>No data</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>No data</td>
</tr>
<tr>
<td>Solubility Notes</td>
<td>~0.5 mg/ml in 1:1 DMSO:PBS (pH 7.2); ~10 mg/ml in EtOH; ~25 mg/ml in DMSO; ~20 mg/ml in DMF;</td>
</tr>
<tr>
<td>Autoignition Pt</td>
<td>No data</td>
</tr>
</tbody>
</table>

#### 9.2 Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Volatile</td>
<td>No data</td>
</tr>
<tr>
<td>Molecular Formula &amp; Weight</td>
<td>C25H34O6  430.5</td>
</tr>
</tbody>
</table>

### Section 10. Stability and Reactivity

#### 10.1 Reactivity

No data available.

#### 10.2 Stability

Unstable [ ]  Stable [ X ]

#### 10.3 Stability Note(s)

Stable if stored in accordance with information listed on the product insert.

#### 10.4 Conditions To Avoid

No data available.

#### 10.5 Incompatibility - Materials

strong oxidizing agents

#### 10.6 Hazardous

<table>
<thead>
<tr>
<th>Decomposition Or</th>
<th>carbon monoxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbon dioxide</td>
<td></td>
</tr>
</tbody>
</table>
Byproducts:

Section 11. Toxicological Information

11.1 Information on Toxicological Effects:
The toxicological effects of this product have not been thoroughly studied.

Chronic Toxicological Effects:
Budesonide - Investigated as a reproductive effector and tumorigen.

Toxicity Data:
- Inhalation TCLO (human): 34 µg/kg; Oral LD50 (rat): >3200 mg/kg;
- Subcutaneous LD50 (rat): 58400 µg/kg; Oral LD50 (mouse): 4750 mg/kg; Subcutaneous LD50 (mouse): 53600 µg/kg;

Budesonide - Toxicity Data: Inhalation TCLO (human): 34 µg/kg; Oral LD50 (rat): >3200 mg/kg; Subcutaneous LD50 (rat): 58400 µg/kg; Oral LD50 (mouse): 4750 mg/kg; Subcutaneous LD50 (mouse): 53600 µg/kg;

Information on Toxicological Effects:
Budesonide - Investigated as a reproductive effector and tumorigen.

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.
Budesonide RTECS Number: TU3723000

Carcinogenicity:
- NTP? No
- IARC Monographs? No
- OSHA Regulated? No

Section 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 Results of PBT and vPvB assessment:
No data available.

Section 13. Disposal Considerations

13.1 Waste Disposal Method:
Dispose in accordance with local, state, and federal regulations.

Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
- DOT Proper Shipping Name: Not dangerous goods.
- DOT Hazard Class: 
- UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
- ADR/RID Shipping Name: Not dangerous goods.
- UN Number:
- Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
- ICAO/IATA Shipping Name: Not dangerous goods.
- Additional Transport Information:
  Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>51333-22-3</td>
<td>Budesonide</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Multi-region format
CAS # | Hazardous Components (Chemical Name) | Other US EPA or State Lists |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>51333-22-3</td>
<td>Budesonide</td>
<td>CAA HAP, ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
</tbody>
</table>

European Community Hazard Symbol codes:

Reproductive Hazard: 2

European Community Risk and Safety Phrases:

R20/21 Harmful by inhalation and in contact with skin.
R42 May cause sensitization by inhalation.
R43 May cause sensitization by skin contact.
R62 Risk of impaired fertility.
R63 Possible risk of harm to the unborn child.
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)
S53 Avoid exposure - obtain special instructions before use.

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

Section 16. Other Information

Revision Date: 10/16/2014
Additional Information About This Product: No data available.

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