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

1.1 Product Code: 22266
Product Name: Digoxin

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

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:
Acute Toxicity: Inhalation, Category 3
Acute Toxicity: Oral, Category 2
Serious Eye Damage/Eye Irritation, Category 2
Specific Target Organ Toxicity (repeated exposure), Category 2
Aquatic Toxicity (Acute), Category 1

2.2 Label Elements:

GHS Signal Word: Danger

GHS Hazard Phrases:
H300: Fatal if swallowed.
H319: Causes serious eye irritation.
H331: Toxic if inhaled.
H373: May cause damage to {organs} through prolonged or repeated exposure.
H400: Very toxic to aquatic life.

GHS Precaution Phrases:
P260: Do not breathe {dust/fume/gas/mist/vapors/spray}.
P264: Wash {hands} thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

GHS Response Phrases:
P301+310: IF SWALLOWED: Immediately P311: Call a POISON CENTER or doctor/physician.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314: Get medical attention/advice if you feel unwell.
P321: Specific treatment (see ... on this label).
P330: Rinse mouth.
P337+313: If eye irritation persists, get medical advice/attention.
P391: Collect spillage.

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

2.3 Adverse Human Health
Effects and Symptoms: Causes serious eye irritation.

CAS # / RTECS # | Hazardous Components (Chemical Name)/REACH Registration No. | Concentration | EC No./EC Index No. | GHS Classification
--- | --- | --- | --- | ---
20830-75-5 IH6125000 | Digoxin | 100.0 % | 244-068-1 NA | Acute Tox.(O) 2: H300
 | | | | Eye Damage 2A: H319
 | | | | Acute Tox.(I) 3: H331
 | | | | STOT (RE) 2: H373
 | | | | Aquatic (A) 1: H400

Section 3. Composition/Information on Ingredients

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.

5.2 Flammable Properties and Hazards: No data available.

- Flash Pt: No data.
- Explosive Limits: No data available.
- 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:

8.2 Exposure Controls:

- 8.2.1 Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

- 8.2.2 Personal protection equipment:
  - Eye Protection: Safety glasses
  - Protective Gloves: Compatible chemical-resistant gloves
  - Other Protective Clothing: Lab coat

- Respiratory Equipment (Specify Type): NIOSH approved respirator, as conditions warrant.

- Work/Hygienic/Maintenance Practices: Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling. No data available.
Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas       [ ] Liquid       [X] Solid
Appearance and Odor: A crystalline solid
pH: No data.
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Explosive Limits: LE/L: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Solubility Notes: ~30 mg/ml in DMSO & DMF;
Octanol/Water Partition Coefficient: No data.
Autoignition Pt: No data.
Decomposition Temperature: No data.
Viscosity: No data.

9.2 Other Information

Percent Volatile: No data.
Molecular Formula & Weight: C41H64O14  780.9

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.
Polymerization: Will occur [ ] Will not occur [X]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials strong oxidizing agents
To Avoid:
10.6 Hazardous Decomposition or Byproducts: carbon dioxide
carbon monoxide
Section 11. Toxicological Information

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

Digoxin - Toxicity Data: Oral TDLO (woman): 100 ug/kg; Oral TDLO (man): 75 ug/kg; Oral LD50 (rat): 28270 ug/kg; Intraperitoneal LD50 (rat): 4 mg/kg; Subcutaneous LD50 (rat): 8900 ng/kg; Oral LD50 (mouse): 17780 ug/kg; Intraperitoneal LD50 (mouse): 3964 ug/kg; Subcutaneous LD50 (mouse): 8150 ng/kg;

Chronic Toxicological Effects: Digoxin - Investigated as a drug, mutagen, natural product, and reproductive effector.

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

Digoxin RTECS Number: IH6125000

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
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<tbody>
<tr>
<td>20830-75-5</td>
<td>Digoxin</td>
<td>n.a.</td>
<td>2B</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

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.

12.6 Other adverse effects: 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: Toxins, extracted from living sources, solid, n.o.s. (Digoxin)

DOT Hazard Class: 6.1 POISON

UN/NA Number: UN3462 Packing Group: III

14.1 LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name: Toxins, extracted from living sources, solid, n.o.s. (Digoxin)

UN Number: 3462 Packing Group: III

Hazard Class: 6.1 - POISON

14.3 AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Toxins, extracted from living sources, solid, n.o.s. (Digoxin)

UN Number: 3462 Packing Group: III

Hazard Class: 6.1 - POISON IATA Classification: 6.1
Digital Assist