

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:** 14952  
**Product Name:** Digitonin  
**Synonyms:** (2.alpha.,3β,5.alpha.,15β,25R)-2,15-dihydroxyspirostan-3-yl  
 O-β-D-glucopyranosyl-(1->3)-O-β-D-galactopyranosyl-(1->2)-O-[β-D-xylopyranosyl-(1->4)-β-D-galactopyranoside; Digitin; NSC 23471; NSC 237417;
- 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:**  
**2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
**Acute Toxicity: Inhalation, Category 3**  
**Acute Toxicity: Oral, Category 3**  
**Acute Toxicity: Skin, Category 3**  
**2.1.2 Classification according to Directive 1999/45/EC:**  
**T: Toxic**  
**Risk Phrases: R23/24/25**  
**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:**

- H331: Toxic if inhaled.  
 H301: Toxic if swallowed.  
 H311: Toxic in contact with skin.

**GHS Precaution Phrases:**

- P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.  
 P264: Wash {hands} thoroughly after handling.  
 P280: Wear {protective gloves/protective clothing/eye protection/face protection}.  
 P361+364: Take off immediately all contaminated clothing and wash it before reuse.

**GHS Response Phrases:**

- P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P311: Call a {POISON CENTER/doctor/...}.  
 P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
 P330: Rinse mouth.

P302+352: IF ON SKIN: Wash with plenty of soap and water.  
 P312: Call a {POISON CENTER/doctor/...} if you feel unwell.  
 P321: Specific treatment {see ... on this label}.

**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:**



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**2.3 Adverse Human Health** Material may be irritating to the mucous membranes and upper respiratory tract.

**Effects and Symptoms:** May cause eye, skin, or respiratory system irritation.

Toxic if inhaled.

Toxic if swallowed.

Toxic in contact with skin.

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

**Section 3. Composition/Information on Ingredients**

CAS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	Risk Phrases/ GHS Classification
11024-24-1	Digitonin	100.0 %	234-255-6 NA	T; R23/24/25 Acute Tox.(O) 3: H301 Acute Tox.(D) 3: H311 Acute Tox.(I) 3: H331

**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 20 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 20 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.  
**Media:** Use water spray to cool fire-exposed containers.  
**Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- 5.2 Flammable Properties and Hazards:** No data available.  
**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 Up:** 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:**

CAS #	Partial Chemical Name	Britain EH40	France VL	Europe
11024-24-1	Digitonin	No data.	No data.	No data.
CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
11024-24-1	Digitonin	No data.	No data.	No data.

**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.

**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  
**Melting Point:** No data.  
**Boiling Point:** No data.  
**Flash Pt:** No data.  
**Evaporation Rate:** No data.  
**Explosive Limits:** LEL: 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 DMF & DMSO;  
**Autoignition Pt:** No data.

**9.2 Other Information**

**Percent Volatile:** No data.

**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 To Avoid:** No data available.  
**10.6 Hazardous Decomposition Or Byproducts:** No data available.

**Section 11. Toxicological Information**

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

**Chronic Toxicological Effects:** Digitonin - Toxicity Data: Oral LD50 (rat): > 50 mg/kg;  
 Digitonin - Investigated as a mutagen.  
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.  
 Digitonin RTECS Number: IH2050050

**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.

**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. (Digitonin)  
**DOT Hazard Class:** 6.1 POISON  
**UN/NA Number:** 3462 **Packing Group:** III



**14.1 LAND TRANSPORT (European ADR/RID):**

**ADR/RID Shipping Name:** Toxins, extracted from living sources, solid, n.o.s. (Digitonin)  
**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. (Digitonin)  
**UN Number:** 3462 **Packing Group:** III  
**Hazard Class:** 6.1 - POISON **IATA Classification:** 6.1

**Additional Transport Information:** Transport in accordance with local, state, and federal regulations.  
 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.

**Section 15. Regulatory Information**

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

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
11024-24-1	Digitonin	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
11024-24-1	Digitonin	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No

**European Community Hazard Symbol codes:**



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**European Community Risk and Safety Phrases:**

R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
S22	Do not breathe dust.
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.)

**Regulatory Information Statement:**

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:** 10/15/2013

**Additional Information About This Product:** No data available.

**Company Policy or Disclaimer:**

DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required