

MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment						
	<table border="1"> <tr> <td>Health Hazard</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Fire Hazard</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Reactivity</td> <td style="text-align: center;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							
<div style="border: 1px solid black; padding: 5px; display: inline-block;">See Section 8.</div>								

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
Product code:	L3613
Product Name:	LANATOSIDE C
Chemical Name:	Card-20(22)-enolide, 3-[(O-.beta.-D-glucopyranosyl-(1.fwdarw.4)-O-3-O-acetyl-2,6-dideoxy-.beta.-D-ribo-hexopyranosyl-(1.fwdarw.4)-O-2,6-dideoxy-.beta.-D-ribo-hexopyranosyl-(1.fwdarw.4)-2,6-dideoxy-.beta.-D-ribo-hexopyranosyl)oxy]-12,14-dihydroxy-, (3.beta.,5.beta.,12.beta.)-
Synonyms:	Allocor Cedilanid Ceglunat Ceglunate Celadigal Celanid Celanide Cetosanol Digilanide C Digilanogen C Isolanid Isolanide Lanatigen C Lanimerck Celanidum
Recommended use:	No information available.
CAS #:	17575-22-3
Formula:	C49-H76-O20
RTECS #	OE2100000
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Martin LaBenz (West Coast)
Contact Person:	Chris Terpak (East Coast)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING!. Harmful if swallowed. May cause skin and eye irritation. May cause irritation of respiratory tract.

Odor:
None.

Physical state:
Solid.

Appearance:
Powder.

Color:
White.

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Potential Health Effects:

Skin Contact:

May cause skin irritation.

Eye Contact:

Contact with eyes may cause irritation.

Inhalation:

May cause irritation of respiratory tract.

Ingestion:

Harmful if swallowed. May affect the cardiovascular system. May cause central nervous system effects.

Chronic Potential Health Effects:

Target Organs:

Heart.

Carcinogen Status:

No information available

Mutagenic Effects:

No information available

Teratogenic Effects:

No information available

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Lanatoside C	17575-22-3	100

4. FIRST AID MEASURES

General Advice:	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
Eye Contact:	Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Toxic if swallowed. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.
Notes to Physician:	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F):	Not applicable
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Tested according to:	Not applicable
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Lower Explosion Limit (%):	No information available
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Upper Explosion Limit (%):	No information available
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Autoignition Temperature (°C/°F):	Not applicable.
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Suitable Extinguishing Media:	Dry chemical. Carbon dioxide (CO ₂). Water spray mist or foam. Alcohol-resistant foam.
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Unsuitable Extinguishing Media:	No information available.
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Hazardous Combustion Products:	Carbon monoxide; Carbon dioxide
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Specific hazards:	May be combustible at high temperatures.
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Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
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Specific Methods:	Dike fire-control water for later disposal; do not scatter the material. Cool containers / tanks with spray water. For fires involving tanks or car/trailer loads, cool containers with flooding quantities of water until well after the fire is out.
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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods for Cleaning Up:

Sweep up and shovel into suitable containers for disposal. Use a suitable vacuum cleaner. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Avoid dust formation. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Deep freeze. Store at -20 °C. Store away from incompatible materials.

Incompatible Products:

Acids. Bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protective Equipment

Eye protection: Safety glasses. Safety glasses with side-shields.

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

National occupational exposure limits

United States

U.S Occupational Exposure Limits: Not determined

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Lanatoside C - 17575-22-3	None	None	None	None

Canada

Canada Occupational Exposure Limits: Not determined

Components	Alberta	British Columbia	Quebec	Ontario
Lanatoside C 17575-22-3	None	None	None	None

Australia and Mexico

Occupational Exposure Limits for Australia and Mexico: Not determined

Components	Australia	Mexico
Lanatoside C 17575-22-3	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Solid.

Appearance:

Powder.

Color:

White.

Odor:

None.

Taste

No information available

Molecular/Formula weight:

985.13

Flash point (°C):

Not applicable

Lower Explosion Limit (%):

Not applicable

Upper Explosion Limit (%):

Not applicable

Autoignition Temperature (°C/°F):

No information available

pH:

No information available

Boiling point/range(°C/°F):

No information available

Melting point/range(°C/°F):

No information available

Decomposition temperature(°C/°F):

No information available

Specific gravity:

No information available

Density (g/cm³):

No information available

Bulk density:

No information available

Vapor pressure @ 20°C (kPa):

No information available

Vapor density:

No information available

Evaporation rate:

No information available

VOC content (g/L):

No information available

Odor threshold (ppm):

No information available

Partition coefficient

(n-octanol/water):

No information available

Miscibility:

No information available

Solubility:

Soluble in Pyridine

10. STABILITY AND REACTIVITY

Stability:

Stable at normal conditions

Conditions to avoid:

Heat. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Materials to avoid:

Acids. Bases.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Possibility of Hazardous Reactions: No information available

Polymerization: Hazardous polymerisation does not occur

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Lanatoside C - 17575-22-3

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 information =
 100 mg/kg Oral LD50 Guinea Pig

Product Information

LC50/inhalation/rat = No information available
LC50/Inhalation/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LD50/oral/rat = No information available
LD50/oral/mouse = No information available

Local Effects

Skin irritation: May cause skin irritation.

Eye irritation: Contact with eyes may cause irritation.

Inhalation: May cause irritation of respiratory tract.

Ingestion: Harmful if swallowed. May affect behavior/central nervous system (convulsions). It may affect the heart (cardiomyopathy including myocardial infarction, arrhythmias).

Sensitization: No information available

Chronic Toxicity

Chronic Toxicity No information available

Carcinogenic effects: Not considered carcinogenic

Components	NTP	IARC	OSHA	ACGIH - Carcinogens	Australia Prohibited Carcinogenic Substances	Australia Notifiable Carcinogenic Substances

Lanatoside C	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
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Mutagenic Effects: No information available
Reproductive Effects: No information available
Teratogenic Effects: No information available
Target Organs: Heart.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: No information available
Ecotoxicity effects: No data available
Aquatic toxicity: No information available
Mobility: No information available
Persistence and degradability: No information available
Bioaccumulative potential: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Lanatoside C	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2811
Proper Shipping Name: Toxic solids, organic, n.o.s. (LanatosideC)
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: Not applicable
Marine Pollutant: No data available
ERG No: 154
DOT RQ (lbs): No information available
Symbol(s): G

TDG (Canada)

Proper Shipping Name: Toxic solid, organic, n.o.s.(LanatosideC)
UN-No: UN2811
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Description: No information available

ADR

Proper Shipping Name: Toxic solid, organic, n.o.s. (LanatosideC)
UN-No: UN2811
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

Proper Shipping Name: Toxic solid, organic, n.o.s. (LanatosideC)
UN-No: UN2811
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

Proper Shipping Name: Toxic solid, organic, n.o.s. (LanatosideC)
UN-No: UN2811
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: 6.1
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN2811
Hazard Class: 6.1
Proper Shipping Name: Toxic solid, organic, n.o.s.(LanatosideC)
Packing Group: III
Subsidiary Risk: No information available
Description: No information available

IATA

Proper Shipping Name: Toxic solid, organic, n.o.s. (LanatosideC)
UN-No: UN2811
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
ERG Code: 6L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Lanatoside C	Not Listed	Not present	Not present	3-503	Not present	Present	241-546-1

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Lanatoside C	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Lanatoside C	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Lanatoside C	Not Applicable	Not Applicable

Canada**WHMIS hazard class:**

D1B Toxic materials

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

Components	Canada (DSL)	Canada (NDSL)
Lanatoside C	Not Listed	Not Listed

EU Classification**R -phrase(s)**

R25 - Toxic if swallowed.

S -phrase(s)

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

T - Toxic

T



16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1-2004 standards.

Preparation Date	04-Apr-2011
Reason for revision:	Not applicable
Prepared by:	Sonia Owen
Literature reference:	No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.