IDENTITY: Digoxin in Methanol

SECTION I

Manufacturer: Cerilliant Corporation
811 Paloma, Suite A
Round Rock, TX 78685

Emergency Telephone Number: (512) 239-9974
Date Prepared: April 5, 2012

SECTION II - HAZARDOUS COMPONENTS/IDENTITY INFORMATION

<table>
<thead>
<tr>
<th>Hazardous Components</th>
<th>Synonyms</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin</td>
<td>3beta-[[O-2,6-dideoxy-beta-D-Ribo-hexopyranosyl-(1'-&gt;2')-O-2,6-dideoxy- beta-D-Ribo-hexopyranosyl-(1'-&gt;4')-2,6-dideoxy-beta-D-Ribo-hexopyranosyl]oxy]-12beta,14-dihydroxy-5beta-card-20(22)-enolide; (3beta,5beta,12beta)-3'[[O-2,6-dideoxy-beta-D-Ribo-hexopyranosyl-(1'-&gt;4')-O-2,6-dIDEOXY-beta-D-Ribo-hexopyranosyl]oxy]-12,14-dihydroxy-card-20(22)-enolide; Digoxin; Card-20(22)-enolide, 3'[[O-2,6-dideoxy-beta-D-Ribo-hexopyranosyl-(1'-&gt;4')-O-2,6-dIDEOXY-beta-D-Ribo-hexopyranosyl]oxy]-12,14-dihydroxy-, (3beta,5beta,12beta); Lanoxin; SK-Digoxin</td>
<td>20830-75-5</td>
<td>0.1</td>
</tr>
<tr>
<td>Methanol</td>
<td>Methyl alcohol, alcool methyl/ique (french), alcool metallicco (italian), carbinol, Colonial spirit, methanolo (italian), methylalkohol (german), methyl hydroxide, wood alcohol, metilow alcohol (polish)</td>
<td>67-56-1</td>
<td>99.9</td>
</tr>
</tbody>
</table>

SECTION III – Hazard Identification

Flammable. Highly Flammable (EU). Toxic. Methanol is a human poison by ingestion. Exposure to Methanol may result in severe skin and eye irritation, blindness and narcosis. It can be absorbed through the skin. Target Organs: Eyes. Kidneys.

SECTION IV – First Aid Measures

Eye Contact: Flush eyes with copious amounts of water for a minimum of 15 minutes and transport to a medical facility.
Ingestion: Do not induce vomiting. Give victim large quantities of liquid and transport to a medical facility.
Skin Contact: Wash affected areas with copious amounts of water and transport to a medical facility.
Inhalation: Remove to fresh air. If breathing is disturbed, give artificial respiration while transporting to a medical facility.

SECTION V- Fire Fighting Measures

Flash Point: 52°F (11°C)  Flammable Limits
Method Used: Closed Cup  LEL: 6.0%  UEL: 38.5%
Extinguishing Media: Dry chemical, carbon dioxide or Halon extinguisher
Special Fire Fighting Procedures: Wear SCBA and protective clothing to prevent contact with skin and eyes.
Unusual Fire and Explosion Hazards: Flashback along vapor trail may occur.

SECTION VI- Accidental Release Measures

Evacuate area. Remove all sources of ignition. Use inert absorbent to pick up all spilled material. Transfer to a suitable waste container with non-sparking tools. Wash spill site with appropriate cleaning agent to remove residual traces of spilled material.
SECTION VII- Handling and Storage

Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged repeated exposure. Wash thoroughly after handling.


SECTION VIII-Exposure Controls/Natural Protection

As appropriate to quantity handled.

Ventilation - Local Exhaust: Use with forced ventilation.

General Mechanical: Normal laboratory air exchange.

Special: N/A

Respiratory Protection: NIOSH approved cartridge type respirator with organic vapor cartridges recommended.

Eye Protection: Safety glasses with side shields or chemical safety goggles.

Protective Gloves: Compatible chemical resistant gloves.

Other Protective Clothing or Equipment: Lab Coat.

Work/Hygienic Practices: Only experienced personnel should be allowed to handle this material.

<table>
<thead>
<tr>
<th>Exposure Limits</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>DFG MAK</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digoxin</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Methanol</td>
<td>TWA 200 ppm</td>
<td>TWA 200 ppm</td>
<td>200 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td>STEL 250 ppm</td>
<td>STEL 250 ppm</td>
<td></td>
<td>TWA 200 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CL 800 ppm/15M</td>
</tr>
</tbody>
</table>

SECTION IX-Physical/Chemical Properties

Boiling Point (degrees C): 64.8 (148°F) (Methanol)
Melting Point (degrees C): 0.68 (Methanol)
Specific Gravity (Water=1): 0.7913 (Methanol)
Vapor Pressure (mmHg): 97 @ 20°C (Methanol)
Vapor Density (Air=1): 1.11 (Methanol)
Evaporation Rate (Butyl Acetate=1): 5.9 (Methanol)
Solubility in Water: Miscible (Methanol)

Appearance and Odor: Clear, colorless liquid, slight alcoholic odor (Methanol)

SECTION X-Stability and Reactivity

Stability: Stable

Conditions to Avoid: Heat, sparks or other sources of ignition.

Incompatible Materials: Acids, acid chlorides, acid anhydrides, oxidizing agents, reducing agents, and alkali metals

Hazardous Decom Pds: Toxic fumes of carbon monoxide and carbon dioxide.

Hazardous Polymerization: Will not occur

Conditions to Avoid: N/A

SECTION XI-Toxicological Information

Routes of Entry: Inhalation? Yes  Skin? Yes  Ingestion? Yes

Carcinogenicity: NTP? N/A  IARC? N/A  OSHA? N/A

D-029 For R&D/analytical purposes only Page 2 of 4
Symptoms of Exposure:
Exposure to Methanol may cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, eye damage, convulsions, fatigue, drowsiness, and central nervous system depression.

Toxicity Data:
Methanol:
oral-rat L50: 3422 mg/kg
oral-rat LD10: 3429 mg/kg
oral-rat LD50: 428 mg/kg
oral-rat LD50: 143 mg/kg
oral-rat LD10: 4 g/kg mg/kg
inhalation-human TC50: 68,000 mg/m^3
inhalation-human TC50: 8800 ppm
intraperitoneal-rat LD50: 7529 mg/kg
intravenous-rat LD50: 2131 mg/kg
skin-monkey LD50: 393 mg/kg

The toxicological properties of this formulation have not been fully investigated. It should be assumed to have toxic effects and, therefore, procedures appropriate for the safe handling of hazardous chemicals should be followed.

SECTION XII-Ecological Information

Acute Toxicity Tests
Fish: Chondrostoma nympha (Rainbow trout): LC50: 19,000 mg/L/96H
Fish: Cyprinus carpio LC50: 36,000 mg/L/48H
Fish: Daphnia magna EC50: 25,000 mg/L/48H
Fish: Daphnia magna EC50: 19,000 mg/L/24H

SECTION XIII-Disposal Considerations
Waste materials should be disposed of under conditions that meet Federal, State, and Local environmental control regulations. Contact a licensed waste disposal specialist to dispose of this material.

SECTION XIV-Transportation Information

<table>
<thead>
<tr>
<th>DOT</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name: Methanol</td>
<td>Proper Shipping Name: Methanol</td>
</tr>
<tr>
<td>UN #: 1230</td>
<td>UN #: 1230</td>
</tr>
<tr>
<td>Class: 3</td>
<td>Class: 3</td>
</tr>
<tr>
<td>Packing Group: II</td>
<td>Packing Group: II</td>
</tr>
<tr>
<td>Small quantities exempted</td>
<td>Small quantities exempted</td>
</tr>
</tbody>
</table>

SECTION XV-Regulatory Information

EU Directives Classification
Symbol of Danger: F T
Indication of Danger: Highly Flammable. Toxic.
R:11 23/24/25 39/23/24/25
Risk Statements:
Highly Flammable, toxic by Inhalation, in contact with skin and if swallowed. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
S: 7 16 36/37 45
Safety Statements: Keep container tightly closed. Keep away from sources of Ignition—no smoking. Wear suitable protective clothing and gloves. In case of an accident or if you feel unwell, seek medical advice immediately.

SARA 313 reporting required.
SECTION XVI-Other Information

The information contained herein is believed to be accurate and is supplied in good faith. Cerilliant Corporation makes no warranty with respect to and assumes no legal responsibility for use of or reliance upon this information. Individuals receiving this data must exercise their own judgement in determining its suitability for a particular purpose.