SAFETY DATA SHEET

Preparation Date: 9/27/2017
Revision Date: 6/7/2018
Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: P1005
Product Name: DL-PANTOTHENYL ALCOHOL

Other means of identification

Synonyms: Alcool DL-pantotenilico (Italian)
Butanamide, 2,4-dihydroxy-N-(3-hydroxypropyl)-3,3-dimethyl-, (+)- (9CI)
Butyramide, 2,4-dihydroxy-N-(3-hydroxypropyl)-3,3-dimethyl-, (+)- (8CI)
(+-)-2,4-Dihydroxy-N-(3-hydroxypropyl)-3,3-dimethylbutyramide
DL-Pantothenyl alcohol
Panthenol
Panthenol
(+/-)-Panthenol
(+/-)-Pantothenyl alcohol

CAS #: 16485-10-2
RTECS #: ES4316500
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against: No information available

Supplier: Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: https://www.spectrumchemical.com
Emergency telephone number: Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Not classified
Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms
Health injuries are not known or expected under normal use
May cause eye/skin/respiratory tract irritation
Ingestion of large amounts may cause gastrointestinal/digestive irritation or upset.
Ingestion of large amounts may cause nausea, vomiting, abdominal pain

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Product code: P1005  Product name: DL-PANTOTHENYL ALCOHOL

Specific hazards: May be combustible at high temperatures.

Special Protective Actions for Firefighters

Specific Methods: No information available.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment: Stop leak if you can do it without risk. Cover powder spill with plastic sheet or tarp to minimize spreading.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe 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. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials: Strong oxidizing agents
                      Strong bases
                      Strong acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

Product code: P1005
Product name: DL-PANTOTHENYL ALCOHOL
United States

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Canada - Alberta</th>
<th>Canada - British Columbia</th>
<th>Canada - Ontario</th>
<th>Canada - Quebec</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Australia and Mexico

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures to reduce exposure:
Ensure adequate ventilation. 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.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Safety glasses with side-shields

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

Respiratory protection: Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds), inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid

Appearance: Crystalline powder.

Color: White.

Odor: No information available.

Taste: No information available.

Formula: C9H19NO4

Molecular/Formula weight: 205.25

Flammability: No information available

Flashpoint (°C/°F): No information available

Autoignition Temperature (°C/°F): No information available

Lower Explosion Limit (%): No information available

Product code: P1005

Product name: DL-PANTOTHENYL ALCOHOL
10. STABILITY AND REACTIVITY

Reactivity
May react with strong oxidizers

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur


Incompatible Materials: Strong oxidizing agents
Strong bases
Strong acids

Hazardous decomposition products: Carbon monoxide. Nitrogen oxides (NOx).

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

Product code: P1005
Product name: DL-PANTOTHENYL ALCOHOL
**DL-Pantothenyl Alcohol**

**CAS-No.** 16485-10-2

<table>
<thead>
<tr>
<th>Toxicity Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50/oral/rat</td>
<td>&gt;2000 mg/kg</td>
</tr>
<tr>
<td>LD50/oral/mouse</td>
<td>No information available</td>
</tr>
<tr>
<td>LD50/dermal/rabbit</td>
<td>No information available</td>
</tr>
<tr>
<td>LD50/dermal/rat</td>
<td>No information available</td>
</tr>
<tr>
<td>LC50/inhalation/rat</td>
<td>No information available</td>
</tr>
<tr>
<td>LC50/inhalation/mouse</td>
<td>No information available</td>
</tr>
<tr>
<td>Other LD50 or LC50 information</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Product Information**

**LD50/oral/rat**
VALUE Acute Tox Oral = > 2000 mg/kg

**LD50/oral/mouse**
Value - Acute Tox Oral = No information available

**LD50/dermal/rabbit**
VALUE Acute Tox Dermal = No information available

**LD50/dermal/rat**
VALUE Acute Tox Dermal = >2000 mg/kg

**LC50/inhalation/rat**
VALUE Vapor = No information available
VALUE Gas = No information available
VALUE Dust/Mist = No information available

**LC50/inhalation/mouse**
VALUE Vapor = No information available
VALUE Gas = No information available
VALUE Dust/Mist = No information available

**Symptoms**

**Skin Contact:** Not likely to cause skin irritation. May cause skin irritation in sensitive individuals.

**Eye Contact:** May cause eye irritation.

**Inhalation** Health injuries are not known or expected under normal use.

**Ingestion** Not expected to be a health hazard for usual industrial handling. Health injuries are not known or expected under normal use. Ingestion of large amounts may cause gastrointestinal tract irritation. Ingestion may cause nausea, vomiting, diarrhea.

**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available.

**Product code:** P1005  **Product name:** DL-PANTOTHENYL ALCOHOL
Carcinogenic effects: Not considered carcinogenic.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity
No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
UN-No: Not Regulated

Product code: P1005 Product name: DL-PANTOTHENYL ALCOHOL
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Class: No information available
Packing group: No information available
Emergency Response Guide Number: No information available

Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No Information available
Description: No information available

ADR
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

IMO / IMDG
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No information available

RID
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

ICAO
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
ERG Code: No information available
Special Provisions: No information available

Product code: P1005
Product name: DL-PANTOTHENYL ALCOHOL
## 15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>U.S. TSCA</th>
<th>KOREA KECL (PICCS)</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS (9)-998</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Present</td>
<td>ACTIV</td>
<td>Not present</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Present 240-540-6</td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Carcinogen</th>
<th>Developmental Toxicity Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

**CERCLA/SARA**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

**U.S. TSCA**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**Canada**

WHIMIS 2015 - GHS Classifications

WHIMIS 2015 Hazard Classification:  
Not a dangerous product according to HPR classification criteria.

Canada Hazardous Products Regulation:  
This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHIMIS 1988 Hazard Class:  
Non-controlled

**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.

**Product code:** P1005  
**Product name:** DL-PANTOTHENYL ALCOHOL
Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>CEPA Schedule I - Toxic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

EU Classification

EU GHS - SV - CLP 1272/2008

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>EU GHS - SV - CLP (1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td></td>
</tr>
</tbody>
</table>

EU - CLP (1272/2008)

R-phrase(s)
not determined (not applicable)
none

S -phrase(s)
none

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-Pantothenyl Alcohol</td>
<td>16485-10-2</td>
<td>No information</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Indication of danger:
Not dangerous
None.

16. OTHER INFORMATION

Preparation Date: 9/27/2017
Revision Date: 6/7/2018
Prepared by: Sonia Owen

Disclaimer:
All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) 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 SDS. The physical properties reported in this SDS 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 SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

Product code: P1005
Product name: DL-PANTOTHENYL ALCOHOL
End of Safety Data Sheet