1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code: G3375
Product Name: GLICLAZIDE
Chemical Name: Urea, 1-(hexahydrocyclopenta(c)pyrrol-2(1H)-yl)-3-(p-tolylsulfonyl)-

Synonyms: 
1-(Hexahydrocyclopenta(c)pyrrol-2(1H)-yl)-3-(p-tolylsulfonyl)urea
Benzenesulfonamide, N-(((hexahydrocyclopenta(c)pyrrol-2(1H)-yl)amino)carbonyl)-4-methyl-
Diamicron
Glimicron
N-(4-Methylbenzenesulfonyl)-N'-(3-azabicyclo(3.3.0)oct-3-yl)urea
Nordialex

CAS #: 21187-98-4
Formula: C15-H21-N3-O3-S
RTECS # YT4500000
C#: 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
May cause skin and eye irritation. May cause irritation of respiratory tract.

Odor: No information available
Physical state: Solid.
Appearance: Powder.

OSHA Regulatory Status
This material is not considered hazardous by the OSHA Hazard Communication Standard (29 1910.1200)
2. HAZARDS IDENTIFICATION

Chronic Potential Health Effects:

Component Carcinogen Status:
Gliclazide 21187-98-4 (100) No information available

Target Organs:

Teratogenic Effects:
No information available

Mutagenic Effects:
No information available

Aggravated Medical Conditions:

See Section 11 for additional Toxicological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gliclazide</td>
<td>21187-98-4</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General Advice:
Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)

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. In case of shortness of breath, 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.

Notes to Physician: Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

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

Tested according to:
Not available

Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available

Autoignition Temperature (°C/°F): Not applicable.

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

Unsuitable Extinguishing Media: No information available.

Hazardous Combustion Products: Carbon monoxide; Carbon dioxide; Nitrogen oxides; Sulfur oxides

Specific hazards: May be combustible at high temperatures.

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

Specific Methods: No information available.

6. ACCIDENTAL RELEASE MEASURES

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

Environmental Precautions:
No information available.

Methods for Cleaning Up:
Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Product code: G3375 Product name: GLICLAZIDE
Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. All equipment used when handling the product must be grounded. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. 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. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Products:

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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</thead>
<tbody>
<tr>
<td>Gliclazide - 21187-98-4</td>
<td>None</td>
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</tbody>
</table>

Canada
Canada Occupational Exposure Limits: Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
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<tbody>
<tr>
<td>Gliclazide 21187-98-4</td>
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</table>

Australia and Mexico
Occupational Exposure Limits for Australia and Mexico: Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gliclazide 21187-98-4</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Solid.

Odor:
No information available

Flash point (°C):
Not applicable

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

Melting point/range(°C/°F):
162-169 °C/323.6-336 °F

Density (g/cm3):
No information available

Vapor density:
No information available

Odor threshold (ppm):
No information available

Appearance:
Powder.

Taste:
No information available

Lower Explosion Limit (%):
Not applicable

Boiling point/range(°C/°F):
No information available

pH:
No information available

Decomposition temperature(°C/°F):
No information available

Bulk density:
No information available

Evaporation rate:
No information available

Partition coefficient
(n-octanol/water):
2.12

Solubility:
Practically insoluble in water
Freely soluble in Methylene chloride
Slightly soluble in Ethanol
Sparingly soluble in Acetone

Molecular/Formula weight:
323.41

Color:
White. Off-white.

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. Incompatible materials.

Materials to avoid:

Hazardous decomposition products:

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
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 = 3 g/kg (LOLI)
1750 mg/kg (RTECS)
LD50/oral/mouse = 3000 mg/kg
LD50/oral/rat = 3 g/kg (LOLI)
1750 mg/kg (RTECS)
LD50/oral/mouse = 3000 mg/kg

Local Effects

Skin irritation: May cause skin irritation.
Eye irritation: Contact with eyes may cause irritation.
Inhalation: May cause irritation of respiratory tract.
Ingestion: May cause gastrointestinal disturbances. May cause abdominal pain. May cause diarrhea. May cause vomiting. May cause hypoglycemia (low blood sugar), which is characterized by symptoms such as blurred vision, chills, cold sweat, dizziness, drowsiness, shaking, rapid heart rate, confusion, weakness, headache, fainting, hunger, tingling of the hands or feet. May cause loss of appetite. May affect behavior/central nervous system (convulsions). May affect behavior/central nervous system (dizziness, drowsiness).
Sensitization: No information available

Chronic Toxicity

Chronic Toxicity
Prolonged or repeated ingestion may affect the blood (normocytic anemia).
Prolonged or repeated ingestion may affect the blood (changes in serum composition). Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated ingestion may affect the urinary system (increased urine volume). Prolonged or repeated ingestion may affect the liver (jaundice, liver function tests impaired). Prolonged or repeated ingestion may cause loss of appetite. Prolonged or repeated ingestion may affect respiration (pulmonary edema).
Carcinogenic effects: Not considered carcinogenic
Components | NTP | IARC | OSHA HCS - Carcinogens | ACGIH - Carcinogens | Australia - Prohibited Carcinogenic Substances | Australia - Notifiable Carcinogenic Substances
--- | --- | --- | --- | --- | --- | ---
Gliclazide | Not listed | Not listed | Not listed | Not listed | Not listed | Not listed

Mutagenic Effects: No information available
Reproductive Effects: No information available
Teratogenic Effects: No information available
Target Organs: Pancreas, Liver, Kidneys.

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
Persistedence 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

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Gliclazide</td>
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<td>None</td>
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</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: None
Subsidiary Risk: Not applicable
Marine Pollutant: No data available
ERG No: No information available
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>Philippines (PICCS)</th>
<th>KOREA KECL</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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<tbody>
<tr>
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<td>Not present</td>
<td>Not present</td>
<td>Not present</td>
<td>244-260-5</td>
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</table>

U.S. Regulations

Product code: G3375
Product name: GLICLAZIDE

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>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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<tr>
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</table>

CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</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>Gliclazide</td>
<td>None</td>
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</table>

U.S. TSCA

<table>
<thead>
<tr>
<th>Components</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>Gliclazide</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

Canada

WHMIS 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.

Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gliclazide</td>
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<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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</thead>
<tbody>
<tr>
<td>Gliclazide</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

EU Classification

R -phrase(s)
not determined

S -phrase(s)
none

The product is classified in accordance with Annex VI to Directive 67/548/EEC
Indication of danger:
Not dangerous

16. OTHER INFORMATION

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

Preparation Date: 29-Jul-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.