1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Glycine
Cat No.: BP381-1; BP381-5; BP381-10; BP381-25; BP381-500; G45-12; G45-212; G46-1; G46-500; G48-12; G48-212; G48-500
Synonyms: Gly; Aminoacetic acid; Aminoethanoic acid; Gyn-Hydralin (Crystalline/Granules/Powder/Certified/USP/EP/BP/JP)
Recommended Use: Laboratory chemicals
Company: Fisher Scientific
Address: One Reagent Lane, Fair Lawn, NJ 07410
Phone: (201) 796-7100
Emergency Telephone Number:
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. HAZARDS IDENTIFICATION

CAUTION!

Emergency Overview
May cause eye, skin, and respiratory tract irritation.

Appearance: White
Physical State: Powder Solid
Odor: Odorless

Target Organs: None known.
Potential Health Effects:
Acute Effects:
Principle Routes of Exposure:
- Eyes: May cause irritation.
- Skin: May cause irritation.
- Inhalation: May cause irritation of respiratory tract.
- Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects: None known

See Section 11 for additional Toxicological information.
Aggravated Medical Conditions  No Information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycine</td>
<td>56-40-6</td>
<td>98</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact  Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact  Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation  Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion  Do not induce vomiting. Obtain medical attention.

Notes to Physician  Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point  No information available.
Method  No information available.

Autoignition Temperature  No information available.

Explosion Limits  No data available
Upper  No data available
Lower  No data available

Suitable Extinguishing Media  Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media  No Information available.

Hazardous Combustion Products  No information available.

Sensitivity to mechanical impact  No information available.
Sensitivity to static discharge  No information available.

Specific Hazards Arising from the Chemical  Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters  As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA  Health 1  Flammability 1  Instability 1  Physical hazards N/A
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Powder, Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>5.9-6.4</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>182-236°C / 359.6-456.8°F</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.535</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available.</td>
</tr>
<tr>
<td>log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>75.07</td>
</tr>
</tbody>
</table>
5. PHYSICAL AND CHEMICAL PROPERTIES
Molecular Formula: C2 H5 N O2

10. STABILITY AND REACTIVITY
Stability: Moisture sensitive. Stable under normal conditions.
Conditions to Avoid: Excess heat. Incompatible products. Exposure to moist air or water. Avoid dust formation.
Incompatible Materials: Bases, Strong oxidizing agents
Hazardous Decomposition Products: Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2), Ammonia
Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

11. TOXICOLOGICAL INFORMATION
Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (mg/kg) (Rat)</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycine</td>
<td>7930</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Irritation: No information available.
Toxicologically Synergistic Products: No information available.

Chronic Toxicity
Carcinogenicity: There are no known carcinogenic chemicals in this product

Sensitization: No information available.
Mutagenic Effects: No information available.
Reproductive Effects: No information available.
Developmental Effects: No information available.
Teratogenicity: No information available.
Other Adverse Effects: The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.
Endocrine Disruptor Information  No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains

Persistence and Degradability  No information available

Bioaccumulation/ Accumulation  No information available

Mobility  No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods  Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT  Not regulated

TDG  Not regulated

IATA  Not regulated

IMDG/IMO  Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
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</thead>
<tbody>
<tr>
<td>Glycine</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-272-2</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
U.S. Federal Regulations

TSCA 12(b)  Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Clean Water Act
Not applicable

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
Not Applicable

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know
Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade  No information available
Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
10-Dec-2010

Print Date
15-Dec-2011

Revision Summary
***, and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS