Material Safety Data Sheet

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               Emergency Telephone Number
Fisher Scientific     CHEMTREC®, Inside the USA: 800-424-9300
One Reagent Lane      CHEMTREC®, Outside the USA: 001-703-527-3887
Fair Lawn, NJ 07410   Tel: (201) 796-7100
Tel: (201) 796-7100

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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>May cause irritation.</td>
</tr>
<tr>
<td>Skin</td>
<td>May cause irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>May cause irritation of respiratory tract.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.</td>
</tr>
</tbody>
</table>

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
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

Physical State
Powder Solid

Appearance
White

odor
odorless

Odor Threshold
No information available.

pH
5.9-6.4

Vapor Pressure
No information available.

Vapor Density
No information available.

Viscosity
No information available.

Boiling Point/Range
No information available.

Melting Point/Range
182 - 236°C / 359.6 - 456.8°F

Decomposition temperature
No information available.

Flash Point
No information available.

Evaporation Rate
No information available.

Specific Gravity
1.595

Solubility
No information available.

log Pow
No data available

Molecular Weight
75.07
9. PHYSICAL AND CHEMICAL PROPERTIES

Molecular Formula  
C₂H₅NO₂

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)</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
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</thead>
<tbody>
<tr>
<td>Glycine</td>
<td>7930 (Rat)</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>
</tr>
</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.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base
Production and Site Reports (40 CFR 710(B).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization
Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

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