Material Safety Data Sheet
Glycerol, Reagent ACS

MSDS# 96129

Section 1 - Chemical Product and Company Identification

MSDS Name: Glycerol, Reagent ACS
Catalog Numbers: AC410980000, AC410980040, AC410980200, 41098-5000, AC41098500L
Synonyms: Glycerol; 1,2,3-Propanetriol; Glyceritol; Glycic Alcohol; 1,2,3-Trihydroxypropane; 1,2,3-Propanetriol

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99

CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#: 56-81-5
Chemical Name: Glycerol
%
100.0
EINECS#: 200-289-5

Hazard Symbols: None listed
Risk Phrases: None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution! This is expected to be a low hazard for usual industrial handling. May cause eye, skin, and respiratory tract irritation. Target Organs: None known.

Potential Health Effects

Eye: May cause eye irritation.
Skin: May cause skin irritation. Low hazard for usual industrial handling.
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling. May cause headache.
Inhalation: Low hazard for usual industrial handling. Inhalation of a mist of this material may cause respiratory tract irritation.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Autoignition Temperature: 400 deg C (752.00 deg F)
Flash Point: 193 deg C (379.40 deg F)
Explosion Limits: Lower: 1.1
Explosion Limits: Upper: Not available
NFPA Rating: health: 1; flammability: 1; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>10 mg/m3 (mist)</td>
<td>none listed</td>
<td>15 mg/m3 TWA</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Glycerol: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: Clear
Odor: faint odor
pH: Not available
Vapor Pressure: 0.003 mbar @ 50 deg C
Vapor Density: 3.17 (H2O=1)
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 290 deg C (554.00°F)
Freezing/Melting Point: -6.7 deg C (19.94°F)
Decomposition Temperature:
Solubility in water: Miscible in water. Insol. in chloroform,
Specific Gravity/Density: 1.4746
Molecular Formula: C3H8O3
Molecular Weight: 92.0542

Section 10 - Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials Not available
Hazardous Decomposition Products Carbon monoxide, carbon monoxide, carbon dioxide.
Hazardous Polymerization Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 56-81-5: MA8050000
RTECS:
\textbf{CAS# 56-81-5}: Draize test, rabbit, eye: 126 mg Mild;
Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 500 mg/24H Mild;
Inhalation, rat: LC50 = >570 mg/m3/1H;
Oral, mouse: LD50 = 4090 mg/kg;
Oral, rabbit: LD50 = 27 gm/kg;
Oral, rat: LD50 = 12600 mg/kg;
Skin, rabbit: LD50 = >10 gm/kg;
Carcinogenicity: Glycerol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:
Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available

Risk Phrases:

Safety Phrases:

S 28A After contact with skin, wash immediately with plenty of water.
S 37 Wear suitable gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 56-81-5: 0

Canada

CAS# 56-81-5 is listed on Canada's DSL List
Canadian WHMIS Classifications: D2B
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
CAS# 56-81-5 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 56-81-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/20/1999
Revision #7 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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