SAFETY DATA SHEET  
according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 04/16/2014  
Version 1.0

SECTION 1. Identification

Product identifier

Product number  GX0185  
Product name  Glycerol GR ACS  
CAS-No.  56-81-5

Relevant identified uses of the substance or mixture and uses advised against

Identified uses  Reagent for analysis

Details of the supplier of the safety data sheet

Company  EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone  800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS-Labeling

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature  Alcohol

Formula  (HOCH₂)₂CHOH  
Molar mass  92.1 g/mol

C₃H₈O₃ (Hill)

Hazardous ingredients

Chemical Name (Concentration)  
CAS-No.
glycerine (\geq 90\% - \leq 100\% )
56-81-5
Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air.

Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact
After eye contact: rinse out with plenty of water.

Ingestion
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Cyanosis, gastric pain, Drowsiness, Diarrhea, Vomiting, Headache

Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Water, Carbon dioxide (CO2), Foam, Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapors possible in the event of fire.
Fire may cause evolution of:
Acrolein

Advice for firefighters

Special protective equipment for fire-fighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.
Advice for emergency responders: Protective equipment see section 8.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling
Observe label precautions.

Conditions for safe storage, including any incompatibilities
Tightly closed.
Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Basis</th>
<th>Value</th>
<th>Threshold limits</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>glycerine 56-81-5</td>
<td>OSHA_TRANS PEL:</td>
<td>15 mg/m³</td>
<td>Form of exposure: Total dust.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PEL:</td>
<td>5 mg/m³</td>
<td>Form of exposure: Respirable fraction.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Z1A Time Weighted Average (TWA):</td>
<td>10 mg/m³</td>
<td>Form of exposure: Total dust.</td>
<td></td>
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</tbody>
</table>

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures
Change contaminated clothing. Wash hands after working with substance.
**SAFETY DATA SHEET**

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Product number</th>
<th>GX0185</th>
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<td>Glycerol GR ACS</td>
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</table>

**Eye/face protection**
Safety glasses

**Hand protection**
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Respiratory protection**
required when vapors/aerosols are generated.
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

### SECTION 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
| pH             | ca. 5 at 100 g/l  
68 °F (20 °C) |
| Melting point  | 18 °C |
| Boiling point/boiling range | 554 °F (290 °C) at 1,013 hPa (decomposition) |
| Flash point    | 390 °F (199 °C) Method: c.c. |
| Evaporation rate | No information available. |
| Flammability (solid, gas) | No information available. |
| Lower explosion limit | 2.6 %(V) |
| Upper explosion limit | 11.3 %(V) |
| Vapor pressure | < 0.001 hPa at 68 °F (20 °C) |
| Relative vapor density | 3.18 |
| Density        | 1.26 g/cm³ at 68 °F (20 °C) |
Relative density
No information available.

Water solubility
at 68 °F (20 °C)
soluble

Partition coefficient: n-octanol/water
log Pow: -1.76
(experimental)
(Lit.) Bioaccumulation is not expected.

Autoignition temperature
No information available.

Decomposition temperature
> 554 °F (> 290 °C)

Viscosity, dynamic
1,412 mPa.s
at 68 °F (20 °C)

Explosive properties
Not classified as explosive.

Oxidizing properties
none

SECTION 10. Stability and reactivity

Reactivity
Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions
Risk of explosion with:
halogens, Strong oxidizing agents, peroxy compounds, Nitric acid, with, conc. sulfuric acid,
hydrogen peroxide, perchlorates, Nitriles

Risk of ignition or formation of inflammable gases or vapors with:
potassium permanganate, halogen oxides, hydrides, chromium(VI) oxide

Exothermic reaction with:
Oxides of phosphorus

Conditions to avoid
Strong heating.

Incompatible materials
no information available

Hazardous decomposition products
in the event of fire: See section 5.
SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact

Target Organs
Eyes
Skin
Respiratory system
Kidneys

Acute oral toxicity
LD50 rat: 12,600 mg/kg (IUCLID)

Symptoms: Vomiting, gastric pain, Diarrhea

Acute inhalation toxicity

Symptoms: slight mucosal irritations

Acute dermal toxicity
LD50 rabbit: > 18,700 mg/kg (IUCLID)

Skin irritation
rabbit
Result: No irritation (IUCLID)

Eye irritation
rabbit
Result: No eye irritation
OECD Test Guideline 405

Sensitization
Patch test: human
Result: negative (IUCLID)

Genotoxicity in vitro
Ames test
Result: negative (IUCLID)

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed
human carcinogen by IARC.

OSHA
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
After swallowing of large amounts:
Cyanosis, Headache, Drowsiness
However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity
Toxicity to fish
LC50 Carassius auratus (goldfish): > 5,000 mg/l; 24 h (Lit.)

Toxicity to daphnia and other aquatic invertebrates
EC5 E. sulcatum: 3,200 mg/l; 72 h (Lit.)
EC50 Daphnia magna (Water flea): > 10,000 mg/l; 24 h (IUCLID)

Toxicity to algae
IC5 Scenedesmus quadricauda (Green algae): > 10,000 mg/l; 7 d (Lit.)

Toxicity to bacteria
EC5 Pseudomonas putida: > 10,000 mg/l; 16 h (Lit.)

Persistence and degradability
Biodegradability
63 %; 14 d
OECD Test Guideline 301C
Readily biodegradable.

Biochemical Oxygen Demand (BOD)
870 mg/g (5 d)
(External MSDS)

Chemical Oxygen Demand (COD)
1,160 mg/g
(External MSDS)

Theoretical oxygen demand (ThOD)
1,217 mg/g
(Lit.)
Ratio BOD/ThBOD
BOD5  71 %
(Lit.)

Ratio COD/ThBOD
95 %
(Lit.)

Bioaccumulative potential
Partition coefficient: n-octanol/water
log Pow: -1.76
(experimental)
(Lit.) Bioaccumulation is not expected.

Mobility in soil
No information available.

Additional ecological information
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations
The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)
Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)
Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)
Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

OSHA Hazards
Target organ effects
This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards
Chronic Health Hazard

SARA 313
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I
Not listed

DEA List II
Not listed

US State Regulations

Massachusetts Right To Know
Ingredients
glycerine

Pennsylvania Right To Know
Ingredients
glycerine

New Jersey Right To Know
Ingredients
glycerine

California Prop 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status
TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.
The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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