

**MATERIAL SAFETY DATA SHEET****GLYCEROL**

PRODUCT CODE NUMBER(S):5350-1, 5350-5, 5355-1

**PRODUCT IDENTIFICATION****Chemical Name and Synonyms:** *Glycerol; Glycerine, Glycyl alcohol; 1,2,3-Propanetriol***Chemical Family:** *Polyhydric alcohols***Chemical Formula:**  $C_3H_8O_3$ **Product Use:** *Laboratory chemical***Manufacturer's Name and Address:***Caledon Laboratories Ltd.  
40 Armstrong Avenue  
Georgetown, Ontario L7G 4R9***Telephone No:** (905) 877-0101**Fax No:** (905) 877-6666**Emergency Telephone No:** CANUTEC (613) 996-6666**HAZARDOUS INGREDIENTS OF MATERIALS**

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Glycerol</i>	<i>&gt;99</i>	<i>10 mg/m<sup>3</sup> (mist)</i>	<i>56-81-5</i>

**PHYSICAL DATA****Physical State:** *Liquid***Odour and Appearance:** *Clear, colourless syrupy liquid; odourless***Odour Threshold (ppm):** *Not applicable***Vapour Pressure (mm Hg):** *0.0025 at 50°C***Vapour Density (Air = 1):** *3.17***Evaporation Rate:** *Very low***Boiling Point (degrees C):** *291°C***Melting Point (degrees C):** *Solid form melts at 18°C; liquid freezes at much lower temperature***pH:** *7.0***Specific Gravity:** *1.2636 at 20°C***Coefficient of Water/Oil distribution:** *LogP(oct)=-2.6***SHIPPING DESCRIPTION****UN:** *Not regulated***T.D.G. Class:** *Not regulated***Pkg. Group:** *Not regulated***REACTIVITY DATA****Chemical Stability:** *Stable; hygroscopic, absorbs moisture from air.***Incompatibility with other substances:** *Strong oxidizers. Can react violently or explosively with acetic anhydride, calcium oxychloride, chromium, oxides, alkali metal hydrides. Reactions with chromium trioxide, potassium chromate, or potassium permanganate or other strong oxidizing agents can be explosive. Can polymerize above 149°C.***Reactivity:** *Keep away from heat and flames. Avoid temperatures above 199°C. Avoid strong oxidizers and concentrated acids. Has been reported to react violently or explosively with many oxidizers.***Hazardous Decomposition Products:** *Toxic gases and vapours may be released if involved in a fire. Glycerol decomposes upon heating above 290°C, forming corrosive gas (acrolein).***FIRE AND EXPLOSION DATA****Flammability:** *Combustible; can burn if strongly heated.***Extinguishing Media:** *Alcohol foam, CO<sub>2</sub>, dry chemical. Water or other foams may cause frothing. Fight fire from up-wind, from a safe distance. Firefighters must wear NIOSH/MSHA approved positive-pressure, full face-piece self-contained breathing apparatus, and full protective clothing (Bunker Gear). Containers may explode in heat of fire; withdraw immediately in case of rising sound from vent or discoloration of tank.***Flash Point (Method Used):** *199°C (CC)***Autoignition Temperature:** *370°C***Upper Flammable Limit (% by volume):** *Not available***Lower Flammable Limit (% by volume):** *Not available***Hazardous Combustion Products:** *Toxic gases and vapours (acrolein) may be released during combustion.***Sensitivity to Impact:** *None identified***Sensitivity to Static discharge:** *None identified***TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD<sub>50</sub>:** *(oral, rat) 12,600 mg/kg***LC<sub>50</sub>:** *Not available***Effects of Acute Exposure to Product:****Inhaled:** *Due to low vapour pressure, inhalation of the vapours at room temperature is unlikely. Inhalation of mist may cause irritation of respiratory tract, with coughing, shortness of breath.***In contact with skin:** *No irritation likely after brief contact. May cause irritation if exposure is prolonged.***In contact with eyes:** *May cause slight, transient irritation.***Ingested:** *Low toxicity. No hazards expected from normal handling. Swallowing large quantity may cause nausea, headache, diarrhea, CNS disturbances with convulsions and coma.***Effects of Chronic Exposure to Product:***Repeated excessive exposures may cause increased fat levels in the blood. Observations in animals include liver and kidney effects.***Carcinogenicity:** *Not listed as a carcinogen by NTP, IARC or OSHA.*

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**Teratogenicity:** *No information available*

**Reproductive Effects:** *No information available*

**Mutagenicity:** *No information available*

**Synergistic Products:** *Strong alkalis*

## PREVENTIVE MEASURES

**Engineering Controls:** *Local exhaust ventilation recommended.*

**Respiratory Protection:** *None normally required; however, if mist or vapours are present above TLV, use NIOSH approved respirator. For higher or unknown concentrations, as in fire or spill conditions, positive-pressure, full face-piece self-contained breathing apparatus.*

**Eye Protection:** *Chemical safety goggles.*

**Skin Protection:** *Natural, neoprene, or nitrile rubber gloves. Clean bodycovering clothing sufficient to limit contact. Recommendations are not valid for gloves made of very thin material.*

**Other Personal Protective Equipment:** *Safety shower and eye-wash fountain in work area.*

**Leak and Spill Procedure:** *Ventilate area. Evacuate area, and eliminate all sources of ignition. Cleanup personnel should be trained in the hazards of the material and its safe handling, and should wear protective equipment and clothing sufficient to prevent inhalation of mist or fumes, and contact with skin and eyes. Do not touch spilled material. Contain spill with inert absorbent, collect, and transfer carefully to containers for recovery or disposal. Flush area of spill thoroughly with running water.*

**Waste Disposal:** *Follow all federal, provincial and local regulations for disposal.*

**Handling Procedures and Equipment:** **COMBUSTIBLE.** *Workers using this chemical must be properly trained in its hazards and its safe use. Avoid generating mist. Keep away from heat, sparks, and all sources of ignition; avoid the accumulation of static charge, use anti-sparking tools and ground and bond equipment and containers. Use the smallest amount possible for the purpose, in a designated area with adequate ventilation. Use good housekeeping procedures, and keep work area free of extraneous materials. Avoid contact with skin and eyes. Avoid inhalation. Wash thoroughly after handling.*

**Storage Requirements:** *Store in suitable, labelled containers in a cool, dry, well-ventilated area, out of direct sunlight and away from incompatible or combustible materials. Keep air out of container. Keep container tightly closed. Inspect frequently for signs of damage or leaking.*

## FIRST AID MEASURES

### **Specific Measures:**

**Eyes:** *Immediately flush eyes with gently running water for five to ten (5-10) minutes, holding eyelids open during flushing, until no trace of chemical remains. Get medical attention if irritation persists.*

**Skin:** *Remove contaminated clothing. Wash affected areas with soap and large amounts of running water for five to ten (5-10) minutes, or until no trace of chemical remains. If irritation persists, get medical advice.*

**Inhalation:** *Remove to fresh air. Get medical attention for any breathing difficulty.*

**Ingestion:** *If the victim is alert and not convulsing, rinse mouth thoroughly with water and give 2 to 4 glasses of water to drink to dilute. If victim feels unwell, or if a large amount has been ingested, get medical attention.*

## REFERENCES USED

*CCINFO disc*

*Sax, Lewis: Hawley's Condensed Chemical Dictionary, 11th ed., 1987*

*Suppliers' Material Safety Data Sheets*

## ADDITIONAL INFORMATION

**Date Issued:** *January 31, 1989*

**Revision:** *November 2010*

**MSDS:** *5350-1, 5350-5, 5355-1*

**WHMIS Designation:** *Not a controlled product. Not required to be updated every three years (WHMIS 1992, B-40, Section 29,2)*

*Prepared by: Caledon Laboratories Ltd. (905) 877-0101  
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