SILVER FERN CHEMICAL

Material Safety Data Sheet

GLYCERINE USP

SECTION 1: IDENTIFICATION

Product Name: GLYCERINE USP

CAS Number: 56-81-5

Chemical Name: 1, 2, 3-Propanetriol

Synonyms: Glycerol

Company
Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North
Suite #C
Seattle WA 98109, USA

Business Contact
Customer Service: 206-282-3376
info@silverfernchemical.com

24 Hour Emergency Contact
Infotrac 800-535-5053
Outside USA & Canada 352-323-3500

SECTION 2: HAZARD IDENTIFICATION

European Hazard classification: This product is not classified as dangerous according to Directive 67/548/EEC.

· Potential Health Effects:

Eye - Concentrated solutions may cause mild transient irritation.

Skin - Unlikely to be irritant. Heated product may cause thermal burns if contacted.

Inhalation - Not applicable at ambient temperature. Glycerine mist may be irritative to respiratory tract.

Ingestion - Unlikely to be harmful unless excessive amount.

· Physical/Chemical Hazards:

Contact of glycerine with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause an explosion.

· Environmental Hazards: Product is biodegradable

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Preparation (mixture): Substance

	CAS No.	Wt/Wt %	EC-No.	EC Symbols	EC R-phrases
1, 2, 3-Propanetriol	56-81-5	99 - 100	2002895	Not applicable	Not applicable

Occupational exposure limits, if applicable, are listed in Section 8

LC/LD50 information is listed in Section 11.

Full text of R phrase(s) are listed in section 16.

SECTION 4: FIRST AID MEASURES

· Eye - Immediately flush with copious amounts of water. Get medical attention if irritation persists.

· Skin - Wash thoroughly with plenty of water and soap.

· Inhalation - Remove to fresh air.

· Ingestion - Remove material from mouth. Drink plenty of water. If large amount swallowed or symptoms develop get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

· Extinguishing media: Use water, alcohol resistant foam, CO2 or dry chemical.

· Unsuitable extinguishing media: Not applicable

· Flash Point and method: >390° F (198.9° C) PMCC

· Explosive limits in air: Not applicable

· Auto-ignition temperature: ~752º F (~400º C)

· Sensitivity to mechanical impact/static discharge: Not available

· Special Protective Equipment: Wear self-contained breathing apparatus and full protective clothing.

· Other Fire Fighting Considerations: Contact of glycerine with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause an explosion.

· Exposure hazards: During burning poisonous acrolein may be formed.

SECTION 6: ACCIDENTAL RELEASE MEASURES

· Personal Precautions: Wear respirator, suitable gloves and eye/face protection.

· Environmental Precautions: Minimize contamination of drains, surface and ground waters.

· Procedures for Spill/Leak Clean-up: Transfer product to suitably labeled containers for disposal at an approved site. Absorb liquid spillage onto inert material (e.g. sand). Residues and small spillages may be washed away with water and detergent.

Refer to Section 8 for additional personal protection information.

Refer to Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

· Handling: No special precautions required, but avoid eye and skin contact as part of normal industrial hygiene. Prevent formation of mist. Eye and skin contact should be avoided if handling at elevated temperatures.

· Storage: Store in clean tight containers to prevent moisture pickup from air. Can be stored in aluminum, stainless steel, fiberglass or resin lined steel vessels.

· Other Recommendations: Avoid contact with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate.

· Specific use(s): Follow bulk handling and storage procedures as noted above.

Refer to Section 6 for clean-up of spillages.

Refer to Section 13 for disposal considerations.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

· General Precautions: Good industrial hygiene should be followed. Avoid breathing mist.

· Exposure Limit Values - glycerine:
Australia – TWA 10 mg/m3
Belgium - TWA 10 mg/m3
Canada:
- Alberta – TWA 10 mg/m3
- British Columbia – TWA 10 mg/m3
- Ontario – TWA 10 mg/m3
- Quebec – TWA 10 mg/m3

France – TWA (VME) 10 mg/m3

Finland – 8 hour limit 20 mg/m3
Ireland – 8 hour OEL (TWA) 10 mg/m3
Italy – 8 hour TWA 10 mg/m3
Korea – TWA 10 mg/m3
Malaysia – TWA 10 mg/m3
Mexico – TWA 10 mg/m3
New Zealand – TWA 10 mg/m3
Singapore – 8-hour PEL (TWA) 10 mg/m3
Spain – 8 hour daily exposure limit (VLA-ED) 10 mg/m3
The Netherlands – MAC TWA (TGG) 10 mg/m3
United Kingdom – TWA 10 mg/m3
United States ACGIH – Glycerine mist - TLV-TWA 10 mg/m3
OSHA Z-1 PEL Glycerine mist, respirable fraction - 5 mg/m3
OSHA Z-1 PEL Glycerine mist, total dust - 15 mg/m3

· Exposure Controls:

Engineering Controls: Ventilation: Local exhaust - preferred
Mechanical (general) acceptable
Provide ventilation to meet exposure limits.

Personal Protective Equipment:

Eye - None required, although eye protection is recommended as part of good industrial hygiene.

Skin - Protective gloves: None required with normal use.

Inhalation - An appropriate NIOSH/MSHA approved respirator should be used if a mist or vapor is generated. A NIOSH/MSHA approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Other Controls: None required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

· General Information:

Physical State: Liquid
Appearance: Water white, clear
Odor: Bland odor; sweet taste
Odor Threshold: Not available

· Important health, safety and environmental information:

pH: Neutral
Boiling point/Boiling range: > 554° F (290° C) @ 760 mm Hg (101.3kPa)
Flash Point & Method: >390 °F (198.9 °C) PMCC
Flammability (solid, gas): Not available
Explosive properties: Not to be expected
Oxidising properties: Not to be expected
Vapor pressure: .0025 mmHg @ 122° F (50° C)
Relative density: 126 @ 68° F (20° C)
Freezing point: Not available
Melting Point: ~64.4º F (~18º C) (solidifies at a much lower temperature)

Solubility:
Water solubility: Complete @ 72º F (22.2 ° C)
Fat solubility (solvent-oil to be specified): Miscible with ethanol
Slightly soluble in acetone
Insoluble in ether and in chloroform

Partition coefficient (Log Pow) (calculated): -1.76
Viscosity: 1410 mPa.s at (68° F) 20º C
Vapor density: Not available
Evaporation Rate (nBuOAc=1): Not available
Explosive Limits: Not applicable
Auto ignition temperature: ~739.4º F (393º C)
Coefficient of water/oil distribution: Not available

SECTION 10: STABILITY AND REACTIVITY

· Stability: Stable under normal operational procedures.
· Conditions to Avoid: None identified.
· Materials to Avoid: Contact of glycerine with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause an explosion.
· Hazardous Decomposition Products: Does not decompose up to 204° C (400° F). Thermal decomposition may release acrolein.
· Hazardous Polymerization: No hazardous polymerization reactions.

SECTION 11: TOXICOLOGICAL INFORMATION

IRRITATION DATA
Skin, rabbit Not irritating
Eye, rabbit Not irritating

TOXICITY DATA
LD50 oral, rat >2 g/kg

SECTION 12: ECOLOGICAL INFORMATION

· Ecotoxicity:

Carassius auratus (Goldfish) 24h LC50 >5,000 mg/L
Leuciscus idus (Golden Orfe) 48h LC0 >250 mg/L
Oncorhynchus mykiss (Rainbow trout) 96h LC100 = 51,000 – 57,000 mg/L
Daphnia magna 24h EC50 >10,000 mg/L
Daphnia magna 24h EC0 >500 mg/L

Microorganisms
Chlimonas paramaecium 48h NOEC >10,000 mg/L
Entosiphon sulcatum 72h NOEC 3200 mg/
Pseudomonas putida 16h NOEC >10,000 mg/L
Uronema parduzci 20h NOEC >10,000 mg/L

Algae
Microcystis aeruginosa 8d NOEC 2900 mg/L
Scenedesmus quadricauda 8d EC0 >10,000 mg/L

· Mobility:
Low potential for sorption to soil. Glycerol will partition primarily to water.

· Persistence and degradability:
Readily biodegradable (OECD 301)

· Bioaccumulative potential:
BCF: 3.162 (calculated)

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL REGULATIONS. Do not dispose of via sinks, drains or into the immediate environment.

SECTION 14: TRANSPORT INFORMATION

U.S. DOT: Not regulated for transport
Not classified in RID/ADR – IMDG – ICAO/IATA

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This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

ADDITIONAL REGULATORY INFORMATION

INVENTORY STATUS: TSCA, EINECS, DSL, JAPAN, AUSTR, PHIL, CHINA, KOREA, New Zealand, Switzerland

WGK water endangering class: 1, low hazard to water

EU Classification
This product is not classified as dangerous according to Directive 67/548/EEC.

Canada
HAZARDOUS INGREDIENTS – WHMIS (Canadian Workplace Hazardous Materials Information System)
This product when tested as a whole is not a controlled substance within the meaning of the Hazardous Products Act.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

SECTION 16: OTHER INFORMATION

EUROPE
This product safety data sheet was prepared in compliance with Directive 2001/58/EC

References: BIBRA toxicity profile (1987). Glycerol.
OECD SIDS Initial Assessment Report for SIAM 14, February 2002

DISCLAIMER OF RESPONSIBILITY

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