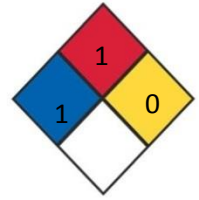


SAFETY DATA SHEET



1. CHEMICAL PRODUCT & COMPANY INFORMATION

General Product Name: **Refined Glycerin**
Revision Date: 11/24/2015
Synonyms: Glycerin, Glycerol, 1,2,3-Propanetriol
Product Use: Food product, used as a feed component, in non-food applications, cosmetic products; food compatible product used in technical applications and industrial applications
CAS Number: 56-81-5
Manufacturer/Supplier: Universal Preserv-A-Chem Inc.
2390 Park Center Drive, Mebane, NC 27302
Emergency Contact Number: 1-800-424-9300 CHEMTREC

2. COMPOSITION/INFORMATION

INGREDIENTS:	CAS Number	Volume %
Glycerin	56-81-5	96-100%

3. HAZARDS IDENTIFICATION

NFPA/HMIS Ratings: Health-1 Flammability-1 Reactivity-0

TARGET ORGANS: The substance may be toxic to kidneys. Repeated or prolonged exposure to the substance can produce target organs damage.

INHALATION: Low hazard for usual industrial handling. Inhalation of product mist may cause respiratory tract irritation.

EYE CONTACT: May cause irritation. Irrigate eye with water for at least 15 to 20 minutes. Seek medical attention if symptoms persist.

SKIN CONTACT: 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.

SECTION 3 NOTES: Product is a byproduct of biodiesel production and transesterification

4. FIRST AID MEASURES

INHALATION: Remove from exposure 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.

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.

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

INGESTION: Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling. May cause headache.

Notes to Physician: Treat symptomatically and supportively.

SECTION 4 NOTES: material is water soluble

5. FIRE FIGHTING MEASURES

- Flash Point: >350°F (176°C)
- Flammability limits: None known
- Auto-ignition Temperature: Not known

NFPA HAZARD CLASSIFICATION

Health: 1 Flammability: 1 Reactivity: 0 Other: none

HMIS HAZARD CLASSIFICATION

Health: 1 Flammability: 1 Reactivity: 0 Protections: Gloves. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

EXTINGUISHING MEDIA:

Use dry chemical, foam, halon, CO₂, or water spray (fog). Water stream may splash the burning liquid and spread fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use water spray to cool drums exposed to fire.

Hazardous Combustion Products: Carbon oxides, sodium oxides

UNUSAL FIRE AND EXPLOSION HAZARDS:

Oil soaked rags can cause spontaneous combustion if not handled properly. Before disposal, wash rags with soap and water and dry in well-ventilated area. Firefighters should use self-contained breathing apparatus to avoid exposure to smoke and vapor.

6. ACCIDENTAL RELEASE MEASURES CLEAN-UP PROCEDURES

Remove sources of ignition, contain spill to smallest area possible. Stop leak if possible. Pick up small spills with absorbent materials such as paper towels, "Oil Dry", sand, or dirt. Recover large spills for salvage or disposal. Wash hard surfaces with safety solvent or detergent to remove remaining oil film. Greasy nature will result in a slippery surface.

7. HANDLING AND STORAGE

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Store in closed containers between 50°F and 120°F. Drums: Protect against physical damage. Bulk storage: Store in standard flammable liquid storage tanks. To maintain product quality do not store in heat or direct sunlight. Keep away from oxidizing agents, excessive heat, and ignition sources. Store and use in well ventilated areas.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Chemical Name	Source	Type	Exposure Limits	Notes
Glycerin mist	ACGIH	TWA	10 mg/m ³	Irritation
Glycerin mist, (respirable fraction)	OSHA	PEL	5 mg/m ³	<i>OSHA Vacated PELs: Glycerin: total dust: 10 mg/m³ TWA; respirable fraction: 5 mg/m³ TWA</i>
Glycerin mist, (total dust)	OSHA	PEL	15 mg/m ³	
Glycerin mist, (respirable fraction)	OSHA	TWA	5 mg/m ³	
Glycerin mist, (total dust)	California	TWA	10 mg/m ³	--
Glycerin mist, (respirable fraction)	North Carolina	TWA	5 mg/m ³	--
Glycerin mist, (total dust)	North Carolina	TWA	10 mg/m ³	--
Glycerin mist, (respirable fraction)	Oregon	TWA	5 mg/m ³	--
Glycerin mist, (total dust)	Oregon	TWA	10 mg/m ³	--
Glycerin mist	Alberta	TWA	10 mg/m ³	--
Glycerin mist	British Columbia	TWA	10 mg/m ³	--
Glycerin mist, (respirable fraction)	British Columbia	TWA	3 mg/m ³	--
Glycerin mist	Ontario	TWA	10 mg/m ³	--
Glycerin (mist)	Quebec	TWA	10 mg/m ³	--
Glicerina, niebla	Mexico	TWA	10 mg/m ³	--

ENGINEERING CONTROLS:

Use general ventilation, local exhaust suggested in enclosed or confined spaces. If vapors or mists are generated, wear a NIOSH approved organic vapor/mist respirator.

PROTECTIVE CLOTHING:

- Eye / face protection - Wear safety glasses with side shields (or goggles).
- Skin protection - Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact glove manufacturer for specific information.
- Respiratory protection - If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Respirator type: Air-purifying respirator with an appropriate air-purifying filter, cartridge or canister.

OTHER PROTECTIVE MEASURES:

Employees must practice good personal hygiene, washing exposed areas of in several times daily and laundering contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point, 760 mm Hg: >130°C (266°F)

Melting Point: Depends on water content

Freezing point: < 2°C (36°F)

Specific Gravity (H 20 =1): 1.22-1.24 @25°C (77°F)

Solubility in H₂O, % by Volume: water soluble

Vapor Pressure, mm Hg: <0.1 @ 20°C

Vapor Density (Air = 1): 3.17 @ 20°C

Evaporation Rate, Butyl Acetate =1: >1

Appearance and Odor: clear to slight yellowish viscous liquid, mild musty odor

Percent Volatile: NA

Volatile Organic Compounds (VOC): NA

Molecular Weight: 92.0

10. STABILITY AND REACTIVITY

GENERAL: This product is stable and hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITONS TO AVOID: Strong oxidizers and strong acids. May react violently with acetic anhydride, calcium oxides, chromium oxides and alkali metal hydride.

HAZARDOUS DECOMPOSTION PRODUCTS: Combustion produces carbon monoxide, carbon dioxide along with thick smoke.

11. TOXILOGICAL INFORMATION

Carcinogenicity: CAS# 56-81-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: No data available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: Not expected to be harmful to aquatic organisms.

PERSISTENCE/DEGRADABILITY: No data available on finished product.

13. DISPOSAL CONSIDERATIONS

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Waste may be disposed of by a licensed waste disposal company. Contaminated absorbent material may be disposed of in an approved landfill. Follow local, state, and federal disposal regulations. As supplied, does not meet the definition of RCRA waste under 40 CFR 261. Waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

UN HAZARD CLASS: N/A

Not regulated as dangerous goods under DOT/IATA/IMDG/TDG

15. REGULATORY INFORMATION:

OSHA STATUS:

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, thermal processing and fumes generated from this product may be hazardous as noted in Sections 2 and 3.

TSCA STATUS: This product is listed on TSCA.

CERCLA (Comprehensive Response Compensation and Liability Act): Not reportable.

SARA TITLE III (Superfund Amendments and Reauthorization Act):

Section 302 Extremely Hazardous Substances: None.

Section 311/312 Hazard Categories: Chronic.

Section 313 Toxic Chemicals: None.

RCRA STATUS:

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste, (40 CFR 261.20-24).

CALIFORNIA PROPOSITION 65:

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986. This product contains no chemicals known to the state of California to cause cancer.

OTHER STATE REGULATIONS: None

INTERNATIONAL REGULATIONS: None

16. OTHER INFORMATION:

Allowable Tolerances: Residues of glycerol are exempted from the requirement of a tolerance when used as a thickener in accordance with good agricultural practices as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Glycerol (glycerin) is exempted

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from the requirement of a tolerance when used as a solvent and thickener, and meeting specifications of Food Chemical Codex, in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

Federal CWA Regulations: None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

State Regulations: Illinois toxic substances disclosure to employee act: Glycerin
Rhode Island RTK hazardous substances: Glycerin
Pennsylvania RTK: Glycerin
Minnesota: Glycerin
Massachusetts RTK: Glycerin
Tennessee - Hazardous Right to Know: Glycerin
TSCA 8(b) inventory: Glycerin

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). **EINECS:** This product is on the European Inventory of Existing Commercial Chemical Substances.

NIOSH Recommendations: NIOSH concluded that the documentation cited by OSHA was inadequate to support the proposed PEL (as an 8 hour TWA) of 10 mg/cu m for glycerin (mist).

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 10 mg/cu m. /Glycerin mist/ Excursion Limit Recommendation: Excursions in worker exposure levels may exceed three times the TLV-TWA for no more than a total of 30 min during a work day, and under no circumstances should they exceed five times the TLV-TWA, provided that the TLV-TWA is not exceeded.

Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non-air quality health and environmental impact and energy requirements. Glycerol is produced, as an intermediate or a final product, by process units covered under this subpart. Product is not listed as hazardous air pollutant or ozone deplete (Class 1 or 2)

FIFRA Requirements: Active ingredient: Glycerol: The active ingredient is no longer contained in any registered pesticide products ... "cancelled." Residues of GLYCEROL are exempted from the requirement of a tolerance when used as a thickener in accordance with good agricultural practices as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. GLYCEROL is exempted from the requirement of a tolerance when used as a solvent and thickener, and meeting specifications of Food Chemical Codex, in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

FDA Requirements: GLYCERIN used as a multiple purpose GRAS food substance in food for human consumption is generally recognized as safe when used in accordance with good manufacturing practice. GLYCERIN used as a general purpose food additive

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in animal drugs, feeds, and related products is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

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