



Material Safety Data Sheet (MSDS) – Glycerin Food Grade

1. Identification of the Substance and Supplier

Product Name: Glycerin Food Grade

Chemical Name: Glycerol

Synonyms: Glycerine, Glycerol, 1,2,3-Propanetriol

CAS Number: 56-81-5

EC Number: 200-289-5

Chemical Formula: $C_3H_8O_3$

Molecular Weight: 92.09 g/mol

Product Grade: Food Grade

Recommended Uses:

Food processing, bakery products, confectionery, beverages, humectant applications, texture control, moisture retention, food formulations, and other approved food-industry applications.

Supplier: Scurea

Product Category: Food and Industrial Raw Materials

For emergency information, users should refer to the supplier's commercial documentation and applicable local emergency services.

2. Hazards Identification

Classification

Food-grade glycerin is generally not classified as a hazardous substance under normal conditions of use.

However, improper handling, excessive heating, mist generation, or contact with incompatible materials may create safety risks.

Potential Health Effects

Eye Contact:

May cause temporary irritation, redness, or discomfort.

**Skin Contact:**

Generally considered to have low irritation potential. Prolonged or repeated exposure may cause mild dryness or irritation in sensitive individuals.

Inhalation:

Glycerin has low volatility under normal conditions. However, inhalation of heated vapors, aerosols, or mist may irritate the respiratory tract.

Ingestion:

Food-grade glycerin is intended for controlled food use. Large quantities may cause gastrointestinal discomfort, nausea, diarrhea, headache, or dehydration.

Environmental Hazards

Glycerin is generally considered readily biodegradable and presents low environmental hazard under normal conditions. Large uncontrolled releases should nevertheless be avoided.

Signal Word

Not generally required under standard classification systems.

Hazard Statements

Not classified as hazardous under normal storage and handling conditions.

Precautionary Statements

- Avoid unnecessary eye contact.
- Avoid breathing heated vapors or mist.
- Keep containers tightly closed.
- Prevent contamination.
- Keep away from strong oxidizing agents.
- Use appropriate protective equipment during industrial handling.



3. Composition / Information on Ingredients

Component	CAS Number	EC Number	Concentration
Glycerol	56-81-5	200-289-5	Typically $\geq 99.5\%$
Water	7732-18-5	231-791-2	Typically $\leq 0.5\%$
Trace Impurities	—	—	Within food-grade specification

The exact composition may vary slightly according to manufacturer, production route, raw material source, and applicable food-grade standard.

4. First Aid Measures

Eye Contact

Immediately rinse the eyes with clean water for several minutes.

Remove contact lenses if present and easy to remove. Continue rinsing.

If irritation persists, seek medical advice.

Skin Contact

Wash exposed skin thoroughly with soap and water.

Remove contaminated clothing if necessary.

Seek medical attention if persistent irritation develops.

Inhalation

Under normal conditions, inhalation exposure is unlikely.

If heated glycerin mist or vapor has been inhaled, move the affected person to fresh air.

Keep the individual comfortable and at rest.

Seek medical attention if coughing, breathing difficulty, or respiratory irritation continues.



Ingestion

Rinse the mouth with water.

Do not induce vomiting unless instructed by medical personnel.

Small accidental ingestion is generally not expected to cause serious harm. However, excessive ingestion may cause gastrointestinal effects.

Seek medical attention if a large quantity has been swallowed or symptoms develop.

Most Important Symptoms

Possible symptoms after excessive exposure may include:

- Mild eye irritation
- Respiratory irritation from mist
- Nausea
- Diarrhea
- Headache
- Gastrointestinal discomfort

5. Firefighting Measures

Flammability

Glycerin is combustible at elevated temperatures but does not ignite easily under normal storage conditions.

Suitable Extinguishing Media

Use:

- Water spray
- Alcohol-resistant foam
- Dry chemical powder
- Carbon dioxide
- Appropriate extinguishing media for the surrounding fire

Unsuitable Extinguishing Media

Avoid high-pressure water jets if they may spread burning material.



Specific Fire Hazards

When strongly heated or involved in a fire, glycerin may decompose and produce irritating or hazardous combustion products.

Possible decomposition products include:

- Carbon monoxide
- Carbon dioxide
- Acrolein under severe overheating or decomposition conditions

Protective Equipment for Firefighters

Firefighters should use:

- Self-contained breathing apparatus
- Protective clothing
- Suitable gloves
- Eye and face protection

Cool exposed containers with water spray when safe to do so.

6. Accidental Release Measures

Personal Precautions

- Avoid walking through spilled material.
- Glycerin can create very slippery surfaces.
- Wear suitable gloves and eye protection.
- Provide adequate ventilation where mist may be present.

Environmental Precautions

Prevent large quantities from entering:

- Drains
- Sewers
- Surface water
- Soil
- Waterways



Cleanup Methods

For small spills:

1. Absorb with sand, inert absorbent, or suitable industrial material.
2. Collect into an appropriate waste container.
3. Wash the affected area with water.
4. Dry the floor carefully to remove slipping hazards.

For large spills:

1. Contain the material using barriers or bunding.
2. Recover as much product as possible.
3. Transfer recovered material into suitable containers.
4. Dispose of contaminated absorbent in accordance with local regulations.

7. Handling and Storage

Safe Handling

- Use clean, dry equipment.
- Avoid product contamination.
- Prevent unnecessary contact with eyes.
- Avoid creating aerosols or mist.
- Do not eat, drink, or smoke in industrial handling areas.
- Wash hands after handling.
- Keep away from incompatible chemicals.

Food-processing equipment should meet applicable hygiene and food-contact requirements.

Storage Conditions

Store glycerin:

- In tightly closed containers
- In a clean and dry location
- Away from direct sunlight
- Away from excessive heat
- Away from strong oxidizing agents
- Away from sources of contamination



Because glycerin is hygroscopic, open containers can absorb moisture from the atmosphere.

Containers should therefore remain properly sealed when the product is not in use.

Recommended Storage Temperature

Ambient controlled storage is generally suitable. Follow the manufacturer's specific storage recommendation.

At lower temperatures, high-purity glycerin may become more viscous or partially crystallize.

8. Exposure Controls / Personal Protection

Engineering Controls

Under normal use, special engineering controls are generally unnecessary.

Where glycerin is heated or processed in a way that generates mist or vapor, provide adequate local exhaust ventilation.

Respiratory Protection

Normally not required.

Use suitable respiratory protection if mist or thermal decomposition products may exceed applicable occupational exposure limits.

Eye Protection

Wear safety glasses or chemical splash goggles during industrial transfer or bulk handling.

Hand Protection

Use chemical-resistant gloves when prolonged contact is expected.

Suitable materials may include:

- Nitrile rubber



- Neoprene
- PVC

Skin and Body Protection

Normal industrial work clothing is generally adequate.

Use additional protective clothing where large-volume handling creates a significant spill risk.

Hygiene Measures

- Wash hands after use.
- Keep work areas clean.
- Prevent contamination of food-processing areas.
- Remove contaminated clothing before entering clean production areas.



9. Physical and Chemical Properties

Property	Typical Value
Physical State	Liquid
Appearance	Clear, colorless, viscous liquid
Odor	Odorless or nearly odorless
Taste	Sweet
Chemical Formula	$C_3H_8O_3$
Molecular Weight	92.09 g/mol
Purity	Typically $\geq 99.5\%$
Relative Density	Approx. 1.25–1.26 at 20°C
Specific Gravity	Approx. 1.26
Melting Point	Approx. 18°C
Freezing Point	Approx. 18°C for high-purity glycerol
Boiling Point	Approx. 290°C, with decomposition possible
Flash Point	Approx. 176–199°C depending on test method
Auto-Ignition Temperature	Approx. 370°C
Vapor Pressure	Very low at ambient temperature
Water Solubility	Completely miscible
Solubility in Alcohol	Soluble
pH	Typically about 5.0–7.0, grade dependent
Refractive Index	Approx. 1.470–1.475
Viscosity	High; strongly temperature dependent
Odor Threshold	Not applicable / not established
Evaporation Rate	Very low
Partition Coefficient	Low
Explosive Properties	Not considered explosive
Oxidizing Properties	Not an oxidizer

Values are typical and should not be treated as guaranteed batch specifications unless confirmed by the Certificate of Analysis.



10. Stability and Reactivity

Chemical Stability

Stable under recommended storage and handling conditions.

Conditions to Avoid

Avoid:

- Excessive heat
- Strong heating
- Open flames
- Contamination
- Contact with incompatible chemicals

Incompatible Materials

Avoid contact with:

- Strong oxidizing agents
- Strong acids under certain conditions
- Strong reactive chemicals
- Powerful dehydrating agents

Hazardous Decomposition Products

Thermal decomposition may generate:

- Carbon monoxide
- Carbon dioxide
- Irritating organic vapors
- Acrolein under severe overheating conditions

Hazardous Polymerization

Hazardous polymerization is not expected under normal conditions.



11. Toxicological Information

Glycerin has relatively low acute toxicity under normal conditions.

Acute Oral Toxicity

Low acute toxicity is generally reported.

Large quantities may cause gastrointestinal effects.

Skin Irritation

Generally not considered irritating under normal exposure conditions.

Repeated or prolonged contact may cause mild irritation in sensitive individuals.

Eye Irritation

May cause mild temporary irritation.

Respiratory Effects

Mist or heated vapors may cause respiratory irritation.

Sensitization

Glycerin is not generally considered a skin sensitizer.

Carcinogenicity

Glycerin is not generally classified as carcinogenic under commonly applied regulatory systems.

Mutagenicity

No significant mutagenic hazard is expected under normal product use.

Reproductive Toxicity

No significant reproductive hazard is expected under normal handling conditions.



Aspiration Hazard

Not generally classified as an aspiration hazard.

12. Ecological Information

Ecotoxicity

Glycerin generally has low toxicity to aquatic organisms.

Persistence and Degradability

Glycerin is considered readily biodegradable under normal environmental conditions.

Bioaccumulative Potential

Low bioaccumulation potential is expected.

Mobility in Soil

Because glycerin is highly soluble in water, it may move through soil if released in large quantities.

Environmental Precautions

Although glycerin has relatively low environmental toxicity, large uncontrolled releases may increase biological oxygen demand in water systems.

Prevent bulk discharge into natural waterways or sewage systems without appropriate treatment.

13. Disposal Considerations

Unused material and contaminated absorbents should be disposed of according to applicable national and local regulations.

Whenever possible:

- Recover usable product.
- Minimize waste generation.



- Avoid uncontrolled disposal into drains or waterways.
- Clean empty packaging before reuse where legally permitted.

Packaging that cannot be cleaned should be disposed of through an approved waste management service.

14. Transport Information

Food-grade glycerin is generally not classified as dangerous goods for transport under normal conditions.

UN Number

Not generally assigned.

UN Proper Shipping Name

Not regulated as dangerous goods under typical transport rules.

Transport Hazard Class

Not applicable.

Packing Group

Not applicable.

Marine Pollutant

Generally no.

ADR / RID

Generally not regulated as dangerous goods.

IMDG

Generally not regulated as dangerous goods.



IATA

Generally not regulated as dangerous goods.

Transport requirements should always be checked against the latest local and international regulations before shipment.

15. Regulatory Information

Food-grade glycerin must comply with the applicable food, chemical, labeling, transport, and occupational safety requirements of the destination market.

Depending on the market and application, buyers may request compliance with relevant standards such as:

- Food-grade purity requirements
- FCC specifications
- USP requirements where applicable
- Ph. Eur. requirements where applicable
- Local food additive regulations
- Applicable GHS / CLP labeling rules
- REACH requirements where applicable
- Applicable import and customs regulations

The exact regulatory status may vary according to product origin, purity, intended use, and country of destination.

Buyers should request current regulatory and quality documentation from the supplier before commercial use.

16. Other Information

Product

Glycerin Food Grade / Glycerol

Intended Use

This Safety Data Sheet provides general safety, storage, handling, transport, and emergency information for food-grade glycerin.



The information should be used together with:

- Certificate of Analysis
- Technical Data Sheet
- Product Specification
- Applicable food safety documentation
- Local occupational safety regulations

Disclaimer

The information in this document is based on generally available technical and safety data and is intended for guidance only.

Product specifications, purity, physical properties, regulatory status, and handling requirements may vary depending on the manufacturer, production source, batch, and destination market.

Scurea recommends that buyers verify the latest supplier-specific **SDS, TDS, Certificate of Analysis, and regulatory documentation** before purchase or use.

This document does not replace an official manufacturer-issued Safety Data Sheet where one is legally required.