

Glycerin

PRODUCT DESCRIPTION

Glycerin is a clear, colorless, viscous liquid trihydric alcohol with the molecular formula $C_3H_8O_3$ (CAS 56-81-5), supplied at 99.5% weight assay with the balance water. Its three hydroxyl groups make it fully water soluble, strongly hygroscopic, and reactive through conventional alcohol chemistry.

The combination of a 290°C boiling point, very low vapor pressure, and no OSHA hazard classification makes glycerin a practical choice where a high-boiling, low-volatility polyol is needed — as a humectant and viscosity builder, a carrier and solvent, a plasticizer, or a feedstock for esterification, etherification, and polyol synthesis.

BENEFITS

One Feedstock, Many Chemistries

Esterification, etherification, and polyol routes all run from the same drum — humectant, plasticizer, solvent, or intermediate without qualifying a second raw material.

Non-Hazardous, Non-Regulated

Not hazardous under OSHA 29 CFR 1910.1200 (2024); HMIS 0 · 1 · 0. Not dangerous goods by DOT, IATA, or IMDG.

High Boiling, Very Low Volatility

Boils at 290°C (554°F), vapor pressure below 0.0025 mmHg at 50°C, flash point above 199°C (390°F) — minimal evaporative loss in heated systems.

Humectant with Full Water Miscibility

Strong water affinity holds moisture in finished goods; full water solubility simplifies dilution, blending, and cleanout.

Readily Biodegradable, Low Toxicity

Readily biodegrades in soil and water with no expected bioaccumulation. No known acute toxicity; not a carcinogen.

APPLICATIONS

Personal Care & Household

Humectant in lotions, creams, and soaps · toothpaste and oral care · hair care · surfactant and cleaner formulations

Industrial Formulation

Plasticizer for films and coatings · printing inks · textile and fiber lubricants · antifreeze and heat transfer fluids · cement and concrete grinding aids

Chemical Intermediate

Alkyd and polyester resins · polyether polyols for polyurethanes · glycerol esters and mono/diglycerides · epichlorohydrin and propylene glycol feedstock

Laboratory & Process

Solvent and carrier · cryoprotectant and preservative media · buffer and reagent preparation · gel electrophoresis and mounting media · viscosity standard

Paper, Foam & Packaging

Softening and conditioning of paper and cellophane · flexible foam polyol component · adhesive and sealant modifier

AVAILABILITY

55
GALLON DRUMS

275
GALLON TOTES

Bulk
DELIVERIES

Samples available on request. Contact us for current lead times and volume pricing.

(800) 489-2306
www.chemgroupus.com

 PRODUCT DATA

PROPERTY	TEST METHOD	VALUE
Appearance	SDS CG-015-1	Clear, colorless viscous liquid
Odor	SDS CG-015-1	Slightly musty
Chemical Name	IUPAC	Propane-1,2,3-triol
Synonyms	SDS CG-015-1	Glycerol · glycerine · 1,2,3-propanetriol
CAS Number	SDS CG-015-1	56-81-5
Molecular Formula	–	C ₃ H ₈ O ₃
Molecular Weight	–	92.09 g/mol
Composition	SDS CG-015-1	99.5% glycerine (wt) · balance water
Assay / Purity	SDS CG-015-1	99.5%
pH	SDS CG-015-1	4.0 – 7.0
Specific Gravity	SDS CG-015-1	1.26
Boiling Point	SDS CG-015-1	290°C (554°F)
Melting / Freezing Point	SDS CG-015-1	18°C (64°F)
Flash Point	SDS CG-015-1	>199°C (>390°F)
Autoignition Temperature	SDS CG-015-1	370°C (698°F)
Vapor Pressure @ 50°C	SDS CG-015-1	< 0.0025 mmHg
Water Solubility	SDS CG-015-1	Soluble
Decomposition	SDS CG-015-1	Decomposes above 290°C, forming acrolein
TSCA Status	SDS CG-015-1	Listed on US EPA TSCA public inventory
Transport Classification	SDS CG-015-1	Not dangerous goods: DOT · IATA · IMDG

 HANDLING & STORAGE

Keep containers tightly closed in a cool, dry, well-ventilated place. Glycerin is hygroscopic, so sealed storage protects assay. Note the 18°C (64°F) freezing point — product may solidify in cold storage and should be warmed and homogenized before use.

Incompatible with strong oxidizing agents and strong bases. Can react violently with acetic anhydride, calcium oxychloride, chromium oxides, and alkali metal hydrides.

 SAFETY

This product is not a hazardous substance or mixture under OSHA 29 CFR 1910.1200 (2024). It is ignitable when preheated; keep away from ignition sources.

May cause eye, skin, and respiratory tract irritation; prolonged skin contact may cause redness. Not a carcinogen. Use safety goggles or face shield and impervious protective clothing.

Consult the current Safety Data Sheet for complete hazard information, exposure limits, first aid measures, and handling precautions prior to use.

The information contained herein is offered in good faith and is believed to be accurate. No warranty, express or implied, is made regarding results to be obtained from its use. The user is responsible for determining suitability for their application and for compliance with all applicable regulations.

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