

TECHNICAL DATA SHEET

Propylene Glycol 40% – USP Grade (C3H8O2)

USP Grade · 40%

CAS NUMBER
57-55-6

ALLIANCE CODE
40-propylene-glycol-usp-grade

GENERATED
2026-07-17

1. IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Propylene Glycol 40% – USP Grade (C3H8O2)	40-propylene-glycol-usp-grade
GRADE	CONCENTRATION
USP Grade	40%
CAS NUMBER	FORMULA
57-55-6 PubChem	C3H8O2 PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
76.09 PubChem	solution

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE USP Grade	40%	—	current
USP Grade	50%	—	50-propylene-glycol-usp-grade
Technical Grade	40%	—	40-propylene-glycol-technical-grade
—	—	—	propylene-glycol-20-inhibited
—	—	—	propylene-glycol-20-technical-grade
—	—	—	propylene-glycol-20-usp-grade

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
—	—	—	propylene-glycol-60-inhibited
—	—	—	propylene-glycol-60-technical-grade
—	—	—	propylene-glycol-60-usp-grade
Technical Grade	—	—	propylene-glycol-technical-grade
USP Grade	—	—	propylene-glycol-usp-grade

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE

Thick odorless colorless liquid. Mixes with water.
(USCG, 1999) [Product record](#)

ODOR

Practically odorless [Product record](#)

DENSITY

1.033 (40% w/w aqueous solution, 20 °C)
[Product record](#)

MELTING POINT

Not characterized for the 40% solution
[Product record](#)

VAPOR PRESSURE

0.08 mmHg at 68 °F ; 0.13 mmHg at 77 °F (NTP, 1992) [Product record](#)

FORM

Liquid [Product record](#)

SPECIFIC GRAVITY (20 °C)

1.033 [Product record](#)

BOILING POINT

Not characterized for the 40% solution
[Product record](#)

FLASH POINT

210 °F (NTP, 1992) [Product record](#)

SOLUBILITY (WATER)

greater than or equal to 100 mg/mL at 70 °F (NTP, 1992) [Product record](#)

Polar solvent — purity vs. intended end-use (electronics, pharma, general industrial) is the dominant grade consideration. See application guidance for grade selection.

MATERIALS OF CONSTRUCTION SERVICE ENVELOPE ≈ 40%

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Fair	60	Acceptable for alcohols; poor for ketones.	Parker O-ring Chemical Compatibility
EPDM Elastomer	Fair	—	Good for alcohols, poor for esters	Cole-Parmer Chemical Compatibility
Viton (FKM) Elastomer	Fair	80	Swells in acetone and esters; avoid for those.	Parker O-ring Chemical Compatibility
FFKM (Kalrez) Fluoropolymer	Excellent	200	Premium ester / ketone sealing	Cole-Parmer Chemical Compatibility
PTFE Fluoropolymer	Excellent	200	Preferred for all polar solvents	Cole-Parmer Chemical Compatibility
Borosilicate Glass Glass Ceramic	Excellent	100	Universally inert.	Cole-Parmer Chemical Compatibility
Glass (borosilicate) Glass Ceramic	Excellent	100	Inert	Cole-Parmer Chemical Compatibility
316 stainless steel Metal	Excellent	60	Standard alcohol / ester service	Cole-Parmer Chemical Compatibility
316L Stainless Steel Metal	Excellent	80	Inert; preferred for high-purity solvent service.	Cole-Parmer Chemical Compatibility
Aluminium Metal	Good	40	Acceptable; avoid prolonged wet contact	Cole-Parmer Chemical Compatibility
Carbon steel Metal	Good	40	Acceptable for short-term storage	Cole-Parmer Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Carbon Steel Metal	Fair	50	Trace moisture causes rust; flash-rust prevention required.	Cole-Parmer Chemical Compatibility
HDPE Thermoplastic	Fair	40	Swells with many polar solvents; verify per solvent.	Cole-Parmer Chemical Compatibility
PP Thermoplastic	Good	50	Acceptable but watch swelling with esters	Cole-Parmer Chemical Compatibility
PVC Thermoplastic	Fair	25	Esters soften PVC; avoid for esters	Cole-Parmer Chemical Compatibility

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated Adjudicated

HAZARD CLASS

Not regulated Adjudicated

PACKING GROUP

Not regulated Adjudicated

PROPER SHIPPING NAME

Not regulated Adjudicated

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated Adjudicated

H-CODES (HAZARD STATEMENTS)

Not applicable ECHA CLP Annex VI

P-CODES (PRECAUTIONARY STATEMENTS)

Not applicable ECHA CLP Annex VI

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— unknown

ACGIH TLV

— unknown

NIOSH REL

— unknown

NIOSH IDLH

— unknown

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for Propylene Glycol 40% – USP Grade (C₃H₈O₂). Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

APPLICATION GUIDANCE

Propylene Glycol 40% – USP Grade (C₃H₈O₂) (USP Grade) is a polar solvent. Grade selection (technical, ACS, electronics, USP) determines acceptable residue and impurity levels for the intended end-use.

- Cleaning and degreasing (technical-grade)
- Coatings, inks, and adhesives formulation
- Reaction solvent for chemical synthesis
- Pharmaceutical manufacturing (USP-grade)
- Electronics-grade cleaning and rinse applications

Flammable. Bond and ground equipment during transfer. Verify grade matches end-use specification before substitution.

STORAGE & HANDLING

RECOMMENDED STORAGE

Cool, well-ventilated flammable-liquid storage area. Tightly sealed original containers. Segregate from oxidizers and acids. Bond and ground bulk...

INCOMPATIBILITIES

Strong oxidizers, strong acids, isocyanates, anhydrides. Hygroscopic — protect from atmospheric moisture for water-sensitive end...

HANDLING PRECAUTIONS

Use chemical-resistant gloves and splash goggles. Bond and ground during transfer to prevent static accumulation. Eliminate ignition...

SHELF LIFE

24 months from date of manufacture in sealed, original packaging

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

REVISION HISTORY

Last reviewed 2026-05-20 by Hossein Taki, Vice President (Vice President, Alliance Chemical · CAGE Code 1LT50 · DOT Hazmat Registrant #2188383).

VERSION	DATE	CHANGE	TRIGGER
1.0	2026-05-20	Initial URL-first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.

ALLIANCE CHEMICAL

Order Propylene Glycol 40% – USP Grade (C3H8O2)

Bulk & packaged sizes · COA/SDS ships with every order