Technical Data Sheet

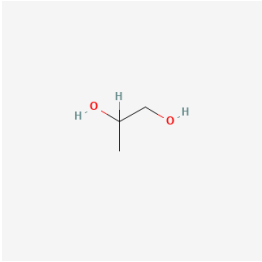
Propylene Glycol 40% USP Grade

USP Grade · 40% v/v

Alliance Code	Revised	Revision
40-propylene-glycol-usp-grade	2026-10-21	1.6

CAS number

57-55-6



Structure · PubChem

Grade

USP Grade · 40% v/v

IDENTITY & COMPOSITION

PRODUCT NAME

Propylene Glycol 40% USP Grade

ALLIANCE CODE

40-propylene-glycol-usp-grade

GRADE

USP Grade

CONCENTRATION

40% v/v

CAS NUMBER

57-55-6 PubChem

FORMULA

C3H8O2 PubChem

MOLECULAR WEIGHT

76.09 PubChem

PRODUCT TYPE

Mixture

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay	40.0 - 41.0 % v/v	—	—	Interpreted
Freeze point	-6.7 °F (-21.5 °C) max	—	ASTM D1177	Interpreted
Dilution water	Purified Water USP; conductivity ≤ 1.3 µS/cm @ 25 °C	—	USP <1231> / conductivity USP <645>	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Acidity	not more than 0.08 mL of 0.10 N sodium hydroxide	—	USP monograph titration, 0.10 N NaOH	Interpreted
Chloride	0.0029% max	—	USP <221>	Interpreted
Heavy metals	2 ppm max	—	Heavy metals (as Pb), sulfide colour comparison against lead standard	Interpreted
Iron	0.21 ppm max	—	—	Interpreted
Limit of Diethylene Glycol	0.04% max	—	GC, flame ionization detector, 0.53-mm x 30-m fused-silica G43 column, 2,2,2-trichloroethanol internal standard	Interpreted
Limit of Ethylene Glycol	0.04% max	—	GC, flame ionization detector, 0.53-mm x 30-m fused-silica G43 column, 2,2,2-trichloroethanol internal standard	Interpreted
Residue on ignition	0.0029 wt% max	—	Ignition of 50 g, residue moistened with 0.5 mL sulfuric acid and ignited to constant weight	Interpreted
Sulfate	0.0025% max	—	USP <221>	Interpreted
Arsenic	0.4 ppm max	—	—	Interpreted
Dipropylene glycol (DPG)	0.04 % max	—	—	Interpreted
Lead (Pb)	0.41 mg/kg max	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Monoethylene glycol (MEG)	0.0004 % max	—	—	Interpreted
Propylene oxide	0.0004 % max	—	—	Interpreted
Tripropylene glycol (TPG)	0.012 % max	—	—	Interpreted
Color, Pt-Co	10 APHA (maximum)	—	Platinum-cobalt (APHA) color scale	Interpreted
Odor	Pass	—	Sensory (odor) evaluation	Interpreted
Residual solvents	Pass	—	USP <467>	Interpreted
Suspended matter	Pass	—	—	Interpreted
Composition	40 % propylene glycol / 60 % deionized water, by volume	—	By formulation; batch weights (scale ticket)	Interpreted

Values are reproduced from the current product reference. Source labels do not by themselves establish a supplier guarantee or a test result for your lot. Confirm applicable acceptance limits and request lot-specific documentation.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE USP Grade	40% v/v	—	current
—	60% v/v	—	propylene-glycol-60-inhibited

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
Technical	60% v/v	—	`propylene-glycol-60-technical-grade`
USP	60% v/v	—	`propylene-glycol-60-usp-grade`
USP Grade	50% v/v	—	`50-propylene-glycol-usp-grade`
Technical Grade	40% v/v	—	`40-propylene-glycol-technical-grade`
—	20% v/v	—	`propylene-glycol-20-inhibited`
Technical	20% v/v	—	`propylene-glycol-20-technical-grade`
USP	20% v/v	—	`propylene-glycol-20-usp-grade`
Technical Grade	—	—	`propylene-glycol-technical-grade`
USP Grade	—	—	`propylene-glycol-usp-grade`

Typical assay for each grade is the average of its recent lots. Confirm a grade meets your specification before substituting it.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless to pale liquid	Adjudicated
Odor	Mild, characteristic	Adjudicated
pH	Essentially neutral (unbuffered blend)	Adjudicated
Specific Gravity	1.034 at 20/20 °C (water = 1)	Adjudicated
Density	1.0322 g/cm^3 at 20 °C	Adjudicated
Boiling Point	~104 °C	Adjudicated
Melting Point	-22 °C (freeze / crystallization onset)	Adjudicated
Flash Point	Not flammable (aqueous solution)	Adjudicated
Solubility (water)	Miscible with water	Adjudicated

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 HCS 2024

SIGNAL WORD
Not regulated Adjudicated

H-CODES (HAZARD STATEMENTS)
Not applicable ECHA C&L Inventory

P-CODES (PRECAUTIONARY STATEMENTS)
Not applicable ECHA C&L Inventory

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
— no canonical

ACGIH TLV
— no canonical

NIOSH REL
— no canonical

NIOSH IDLH
— no canonical

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

APPLICATIONS

Ready-to-use propylene glycol and water blend (40% PG): heat-transfer fluid and antifreeze for closed-loop systems; humectant and solvent carrier.

Adjudicated

STORAGE & HANDLING

RECOMMENDED STORAGE
Keep tightly closed (hygroscopic) in a cool, dry place away from oxidizers. Stainless steel, carbon steel, polyethylene or polypropylene containers.

Adjudicated

HANDLING PRECAUTIONS
Chemical-resistant gloves and splash goggles. Avoid contact with hot surfaces and hot process equipment. Inhibitor packages deplete in service — monitor rather than top up blindly.

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES
Strong oxidizing agents; strong acids; strong bases.

Adjudicated

SHELF LIFE
Consult Technical Services for product-specific shelf life

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.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

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Not regulated for transport.
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Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
55

REVISION HISTORY

Last reviewed 2026-10-20 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.6	2026-10-21	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • `physicalProperties` · canonical change (coa.data_provenance / adjudication)	canonical_change
1.5	2026-10-20	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • `density` · canonical change (coa.data_provenance / adjudication) • `specificGravity` · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	2026-10-13	Canonical data updated: 5 fields changed via the provenance/adjudication pipeline. • `incompatible_materials` · canonical change (coa.data_provenance / adjudication) • `conditions_to_avoid` · canonical change (coa.data_provenance / adjudication) • `hazardous_decomposition_products` · canonical change (coa.data_provenance / adjudication) • `storage_precautions` · canonical change (coa.data_provenance / adjudication) • `recommended_use` · canonical change (coa.data_provenance / adjudication)	canonical_change
1.3	2026-09-09	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • `physicalProperties` · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.2	2026-07-24	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • physicalProperties · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-07-06	Canonical data re-verified: 4 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance) • physicalProperties · canonical adjudication / reground (coa.data_provenance)	canonical_change
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.