

TECHNICAL DATA SHEET

50% Propylene Glycol Inhibited

Technical · 50%

CAS NUMBER	ALLIANCE CODE	GENERATED
57-55-6	50-propylene-glycol-inhibited	2026-08-31
REVISION	REVIEWED	
1.2	2026-07-16 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
50% Propylene Glycol Inhibited	50-propylene-glycol-inhibited
GRADE	CONCENTRATION
Technical	50%
CAS NUMBER	FORMULA
57-55-6 PubChem	C3H8O2 PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
76.09 PubChem	mixture

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Propylene glycol content	48.0 – 54.0 (% by weight)	50.0 %	—	Supplier specification
Reserve alkalinity	≥ 5.0 mL at 50 vol % propylene glycol	5.8	ASTM D1121	Commercial practice
Corrosion performance	Weight loss within ASTM D3306 limits on all six metals	Passes test	ASTM D1384	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Chloride in dilution water	< 25 ppm	0.5 ppm	ASTM D512	Interpreted
Acidity as Acetic Acid	0.0025 % max	0.0008 wt%	—	Derived by dilution
Chlorides as Cl	0.7 ppm max	0.30 ppm	—	Derived by dilution
Heavy Metals as Pb	2.5 ppm max	0.13 ppm	—	Derived by dilution
Iron	0.51 ppm max	0.07 ppm	—	Derived by dilution
Dipropylene glycol (DPG)	0.25 wt% max	0.125 wt%	GC area % (ASTM E202)	Derived by dilution
ash	0.0025% max	0.0004 wt%	—	Derived by dilution
Burst protection	< -60 °F (< -51.1 °C) at 50 vol % propylene glycol	-90 °F (-67.8 °C)	Dynalene PG series data table	Commercial practice

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE Technical	50%	—	current
Technical Grade	50%	—	50-propylene-glycol-technical-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

PROPERTY	VALUE	SOURCE
Appearance	Clear, colorless to pale liquid	Published reference
Color	Clear, "Water-White"	Supplier specification
Odor	Mild, characteristic	Published reference
pH	9.5 – 10.5	Supplier specification
Specific Gravity (20 °C)	1.035 – 1.045	Published reference
Density	1.04 g/mL at 20 °C	Published reference
Boiling Point	222 °F at 50 vol % propylene glycol	Commercial practice
Melting Point	–31 °F (–35.0 °C) at 50 vol % propylene glycol	Commercial practice
Flash Point	Not flammable (aqueous solution)	Published reference
Solubility (water)	Miscible with water	Published reference

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 ≈ 50%

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

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
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	Universal solvent compatibility.	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
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	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**

PACKING GROUP

Not regulated **Adjudicated**

HAZARD CLASS

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)

— **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: 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.

APPLICATION GUIDANCE

50% Propylene Glycol Inhibited (Technical) 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 storage.

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

INCOMPATIBILITIES

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

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

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.

HANDLING PRECAUTIONS

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

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

SHELF LIFE

Consult Technical Services for product-specific shelf life

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

Not regulated for transport.

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
55

REVISION HISTORY

Last reviewed 2026-07-16 by Andre Taki, DOT Hazmat Specialist.

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

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-07-16	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.