

TECHNICAL DATA SHEET

Ethylene Glycol 60/40

Technical · 60/40

CAS NUMBER

107-21-1

ALLIANCE CODE

ethylene-glycol-60-40

GENERATED

2026-08-31

REVISION

1.3

REVIEWED

2026-07-17 · Andre Taki

IDENTITY & COMPOSITION

PRODUCT NAME

Ethylene Glycol 60/40

ALLIANCE CODE

ethylene-glycol-60-40

GRADE

Technical

CONCENTRATION

60/40

CAS NUMBER

107-21-1 [PubChem](#)

FORMULA

C2H6O2 [PubChem](#)

MOLECULAR WEIGHT

62.07 [PubChem](#)

PRODUCT TYPE

mixture

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (ethylene glycol)	59.0 – 61.0 %	60.0 %	—	Commercial practice
Acidity	6 Max mg/kg	1.8 ppm	—	Derived by dilution
Ash	6 Max mg/kg	1.2 mg/kg	—	Derived by dilution
Diethylene glycol	0.030 Max Wt%	0.018 %wt	—	Derived by dilution

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Ethylene Glycol	60%	60 %	—	Supplier specification
Chloride (Cl)	0.46 ppm max	0.07 ppm	—	Derived by dilution
Iron (Fe)	0.064 ppm max	0.024 ppm	—	Derived by dilution
Residue after evaporation	0.0031% max	0.0006%	—	Derived by dilution
Sulfate (SO4)	3.4 ppm max	0.30 ppm	Turbidimetric, ACS procedure	Derived by dilution
Heavy metals (as Pb)	0.6 ppm max	0.06 ppm	ICP-OES / ACS heavy metals procedure	Derived by dilution

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	60/40	—	current
Laboratory	50/50	—	ethylene-glycol-50-50
Technical	29.98%	—	ethylene-glycol-30-70
ACS Grade	—	—	ethylene-glycol-acs-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
Odor	Mild, characteristic	Published reference
pH	6.0 – 8.0	Interpreted
Specific Gravity (20 °C)	1.0775 – 1.0845	Interpreted
Density	1.077 g/mL at 20 °C	Published reference
Boiling Point	~111 °C	Published reference
Melting Point	–58 °F (–50.0 °C) maximum	Interpreted
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 ≈ 60%

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

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
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

Warning **Adjudicated**

H-CODES (HAZARD STATEMENTS)

H302, H373 **Adjudicated**

P-CODES (PRECAUTIONARY STATEMENTS)

P260, P264, P270, P314, P501 **Adjudicated**

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.

APPLICATIONS

Anti-freezing agent **laballey.com**

Used in the automobile industry **laballey.com**

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

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 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.3	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
1.2	2026-07-22	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • <code>unNumber</code> · canonical change (coa.data_provenance / adjudication) • <code>hazardClass</code> · canonical change (coa.data_provenance / adjudication) • <code>packingGroup</code> · canonical change (coa.data_provenance / adjudication) • <code>dotProperShippingName</code> · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-07-17	Canonical data re-verified: 8 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). • <code>countryOfOrigin</code> · canonical adjudication / reground (coa.data_provenance) • <code>dotSubsidiaryHazardClass</code> · canonical adjudication / reground (coa.data_provenance) • <code>ghsClassification</code> · canonical adjudication / reground (coa.data_provenance) • <code>hazard_h_codes</code> · canonical adjudication / reground (coa.data_provenance) • <code>hazard_p_codes</code> · canonical adjudication / reground (coa.data_provenance) • <code>hsCode</code> · canonical adjudication / reground (coa.data_provenance) • <code>physicalProperties</code> · canonical adjudication / reground (coa.data_provenance) • <code>signalWord</code> · 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.