Technical Data Sheet

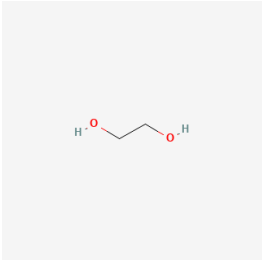
Ethylene Glycol 50/50 Technical Grade

Technical · 50% v/v

Alliance Code	Revised	Revision
ethylene-glycol-50-50	2026-10-21	1.11

CAS number

107-21-1



Structure · PubChem

Grade

Technical · 50% v/v

Signal word

Warning

Hazards

Irritant / harmful | Health hazard | H302 H373

IDENTITY & COMPOSITION

PRODUCT NAME

Ethylene Glycol 50/50 Technical Grade

ALLIANCE CODE

ethylene-glycol-50-50

GRADE

Technical

CONCENTRATION

50% v/v

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)	50.0 - 51.0 % v/v	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Viscosity (Dynamic)	< 5 mPa.s	—	—	Interpreted
Freeze point	-34.6 °F (-37.0 °C) max	—	ASTM D1177	Interpreted
Ash	5 Max mg/kg	—	—	Interpreted
Sulfate (SO4)	3 ppm max	—	Turbidimetric, ACS procedure	Interpreted
Heavy metals (as Pb)	0.51 ppm max	—	ICP-OES / ACS heavy metals procedure	Interpreted
Acidity as Acetic Acid	0.0026% max	—	—	Interpreted
Chloride (Cl)	0.45 ppm max	—	—	Interpreted
Diethylene Glycol	0.026% max	—	—	Interpreted
Iron (Fe)	0.057 ppm max	—	—	Interpreted
Residue after evaporation	0.0027% max	—	—	Interpreted
Color	10 max	—	—	Interpreted
Composition	50 % ethylene glycol / 50 % 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 Technical	50% v/v	—	current
Technical	60% v/v	—	ethylene-glycol-60-40
Technical	40% v/v	—	SHOPIFY-8019745144874
Technical	30% v/v	—	ethylene-glycol-30-70
Technical	15/85	—	SHOPIFY-15492823941353
ACS Grade	—	—	ethylene-glycol-acs-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	7.7 – 8.7	Interpreted
Specific Gravity	1.070 at 20/20 °C (water = 1)	Adjudicated
Density	1.0679 g/cm^3 at 20 °C	Adjudicated
Boiling Point	~108 °C	Adjudicated
Melting Point	Freeze point approx. -37 °C (-35 °F) typical; -36.7 °C (-34 °F) max, at 50/50 v/v (52.7 wt%) ethylene glycol	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

Warning Adjudicated

H-CODES (HAZARD STATEMENTS)

H302, H373 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P260, P264, P270, P301+P312, P314, P330, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— no canonical

ACGIH TLV

25 ppm TWA / 50 ppm STEL; 10 mg/m^3 STEL (inhalable)

Adjudicated

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.

HEALTH & FIRE HAZARD

ACUTE TOXICOLOGY

LD_{50} ORAL

Ethylene glycol 4,700 mg/kg (rat); human lethal dose about 1,400–1,600 mg/kg. ATE for this 52.7 wt% blend about 950 mg/kg (from the 500 mg/kg acute-toxicity estimate), the basis for H302.

Adjudicated

LD_{50} DERMAL (RABBIT)

> 10,600 mg/kg (ethylene glycol)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

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

Keep closed in a cool place away from oxidizers. Protect from freezing below the rated freeze point. Store separately from food and drink.

Adjudicated

HANDLING PRECAUTIONS

Chemical-resistant gloves and splash goggles. Ethylene glycol grades are toxic by ingestion and must be kept away from food, drink and animals; propylene glycol grades are not. 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 and bases, aldehydes, alkali metals.

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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A package holding 9,300 lb (4,260 kg), about 1,040 US gal, or more of this product contains a reportable quantity (RQ) and ships as:

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UN3082, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol), 9, III, RQ
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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
1.11	2026-10-21	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • physicalProperties · canonical change (coa.data_provenance / adjudication)	canonical_change
1.10	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
1.9	2026-10-08	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • dot_transport_note · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.8	2026-10-07	Canonical data updated: 13 fields changed via the provenance/adjudication pipeline. • ghsClassification · canonical change (coa.data_provenance / adjudication) • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication) • synonyms · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · canonical change (coa.data_provenance / adjudication) • 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) • rcra_waste_codes · canonical change (coa.data_provenance / adjudication) • dot_transport_note · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication) • cercla_rq · canonical change (coa.data_provenance / adjudication)	canonical_change
1.7	2026-10-05	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication)	canonical_change
1.6	2026-09-29	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • physicalProperties · canonical change (coa.data_provenance / adjudication)	canonical_change
1.5	2026-09-09	Canonical data updated: 1 field changed via the provenance/adjudication pipeline. • physicalProperties · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	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
1.3	2026-07-22	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • unNumber · canonical change (coa.data_provenance / adjudication) • hazardClass · canonical change (coa.data_provenance / adjudication) • packingGroup · canonical change (coa.data_provenance / adjudication) • dotProperShippingName · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-07-17	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • unNumber · canonical change (coa.data_provenance / adjudication) • dotProperShippingName · canonical change (coa.data_provenance / adjudication) • hazardClass · canonical change (coa.data_provenance / adjudication) • packingGroup · 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). • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) • ghsClassification · canonical adjudication / reground (coa.data_provenance) • hazard_h_codes · canonical adjudication / reground (coa.data_provenance) • hazard_p_codes · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance) • physicalProperties · canonical adjudication / reground (coa.data_provenance) • signalWord · 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.