Technical Data Sheet

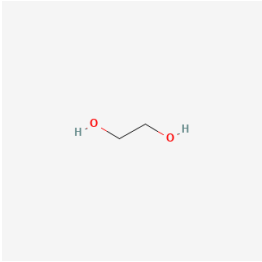
Ethylene Glycol ACS Grade

ACS Grade

Alliance Code	Revised	Revision
ethylene-glycol-acs-grade	2026-10-20	1.7

CAS number

107-21-1



Structure · PubChem

Grade	Signal word
ACS Grade	**Warning**

Hazards

Irritant / harmful | Health hazard | H302 H373

IDENTITY & COMPOSITION

PRODUCT NAME
Ethylene Glycol ACS Grade

ALLIANCE CODE
ethylene-glycol-acs-grade

GRADE
ACS Grade

CONCENTRATION
—

CAS NUMBER
107-21-1 PubChem

FORMULA
C2H6O2 PubChem

MOLECULAR WEIGHT
62.07 PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay	Min. 99.9%	—	—	Interpreted
Acidity as Acetic Acid	Max 0.005%	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Chloride (Cl)	0.5 ppm max	—	—	Interpreted
Diethylene Glycol	Max 0.05%	—	—	Interpreted
Iron (Fe)	0.1 ppm max	—	—	Interpreted
Residue after evaporation	Max 0.005%	—	—	Interpreted
Water	0.05 wt % max	—	—	Interpreted
Sulfate (SO4)	Max 5 ppm	—	Turbidimetric, ACS procedure	Interpreted
Heavy metals (as Pb)	Max 1 ppm	—	ICP-OES / ACS heavy metals procedure	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 ACS Grade	—	—	current
Technical	60/40	—	ethylene-glycol-60-40
Technical	50/50	—	ethylene-glycol-50-50
Technical	40/60	—	SHOPIFY-8019745144874
Technical	29.98%	—	ethylene-glycol-30-70

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 liquid	Adjudicated
Form	Liquid	Published reference
Color	10	Interpreted
Odor	Odorless	Adjudicated
pH	5.5–7.5 (50% aqueous solution)	Adjudicated
Specific Gravity	1.115 at 20/20 °C (water = 1)	Adjudicated
Density	1.1133 g/cm³ at 20 °C	Adjudicated
Boiling Point	196–198 °C (385–388 °F) at 760 mmHg	Adjudicated
Melting Point	-13 °C (9 °F)	Adjudicated
Flash Point	111 °C (232 °F), closed cup	Adjudicated
Vapor Pressure	0.12 mmHg (0.016 kPa) at 20 °C	Adjudicated
Solubility (water)	Completely miscible with water	Adjudicated
Viscosity	16.1 mPa·s at 25 °C	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 (RAT)

4,700–7,712 mg/kg (rat). Human lethal dose about 1,400–1,600 mg/kg, the basis for H302.

Adjudicated

LD_{50} DERMAL (RABBIT)

> 10,600 mg/kg Adjudicated

LC_{50} INHALATION (RAT, 4 H)

> 2.5 mg/L (aerosol, 6 h)

Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

APPLICATIONS

Use as a laboratory reagent laballey.com

Recommended for use in industrial, commercial, and research institutes laballey.com

Anti-freezing agent laballey.com

Manufacturing of resins laballey.com

Synthesis of polyester fibers laballey.com

Dehydrating agent laballey.com

Automobile industry, polyester manufacturing, and synthetic waxes production 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 tightly closed (hygroscopic) in a cool, dry place away from oxidizers. 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 and alkaline-earth metals, aluminum compounds.

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)

```
Not regulated for transport.
```

A package holding 5,000 lb (2,270 kg), about 530 US gal, or more of this product contains a reportable quantity (RQ) and ships as:

```
UN3082, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol), 9, III, RQ
```

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
1.7	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

VERSION	DATE	CHANGE	TRIGGER
1.6	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
1.5	2026-10-07	Canonical data updated: 24 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) • odor · canonical change (coa.data_provenance / adjudication) • pH · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • vaporPressure · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • viscosity · canonical change (coa.data_provenance / adjudication) • autoIgnitionTemperature · canonical change (coa.data_provenance / adjudication) • partitionCoefficient · 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) • cercla_rq · canonical change (coa.data_provenance / adjudication) • dot_transport_note · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	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

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-09-30	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • appearance · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	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
1.1	2026-07-17	Canonical data re-verified: 7 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) • 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.