Technical Data Sheet

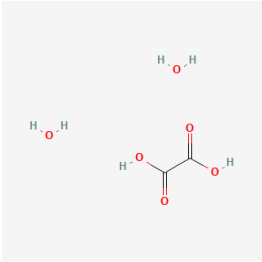
Oxalic Acid ACS Grade

ACS Grade

Alliance Code	Revised	Revision
oxalic-acid-acs-grade	2026-10-13	1.7

CAS number

6153-56-6



Structure · PubChem

Grade

ACS Grade

Signal word

Danger

Hazards

Corrosive | Irritant / harmful | Health hazard H302 H312 H315 H318 H373

IDENTITY & COMPOSITION

PRODUCT NAME

Oxalic Acid ACS Grade

ALLIANCE CODE

oxalic-acid-acs-grade

GRADE

ACS Grade

CONCENTRATION

—

CAS NUMBER

6153-56-6 Adjudicated

FORMULA

C2H2O4·2H2O Adjudicated

MOLECULAR WEIGHT

126.07 Adjudicated

PRODUCT TYPE

Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay	99.5-102.5%	—	Redox Titration	Interpreted
Calcium (Ca)	0.001 % max	—	—	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Chloride (Cl)	0.002 % max	—	—	Interpreted
Heavy metals	5 ppm max	—	ICP-OES	Interpreted
Insoluble material	≤0.005%	—	—	Interpreted
Iron (Fe)	2 ppm max	—	—	Interpreted
Nitrogen compounds (as N)	≤0.001%	—	—	Interpreted
Residue after ignition	0.01 % max	—	—	Interpreted
Substances darkened by hot sulfuric acid	To pass test	—	—	Interpreted
Sulfates (SO4)	0.005 % max	—	—	Interpreted
Identification (Infrared absorption)	Conforms to reference spectrum of oxalic acid dihydrate	—	FTIR, KBr disc, comparison to reference spectrum	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.

REAL-LOT STATISTICS BASED ON 1 LOT OVER THE LAST 24 MONTHS

Lot statistics not yet available for this product — need at least 3 lots, have 1.

Aggregated from real laboratory measurements on shipped lots. Source: Alliance Chemical lot records. Not a specification.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Colorless to white crystals	Adjudicated
Form	Solid	Adjudicated
Odor	Odorless	Adjudicated
Specific Gravity	1.653	Adjudicated
Density	1.653 g/cm3	Adjudicated
Boiling Point	Not applicable (loses water of hydration, then decomposes)	Adjudicated
Melting Point	101.5 °C (214.7 °F)	Adjudicated
Flash Point	Not applicable (non-flammable)	Adjudicated
Vapor Pressure	Negligible at 20 °C	Adjudicated
Solubility (water)	Soluble in water (13-14 g/100 mL at 20 °C) and alcohol	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

Danger Adjudicated

H-CODES (HAZARD STATEMENTS)

H302, H312, H315, H318, H373 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)

P260, P264, P270, P280, P301+P312, P302+P352, P305+P351+P338, P310, P313, P314, P321, P330, P362, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

1 mg/m^3 TWA OSHA 29 CFR 1910.1000

ACGIH TLV

— no canonical

NIOSH REL

1 mg/m^3 TWA / 2 mg/m^3 STEL NIOSH Pocket Guide

NIOSH IDLH

500 mg/m^3 NIOSH Pocket Guide

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

Laboratory, research or manufacturing use as an ACS reagent, including as a reagent meeting specifications for testing USP/NF monographs

digitalassets.avantorsciences.com

Used as an analytical quality standard / reagent against which other substances are graded sciencelab.com

Industrial use as a precipitating agent in rare earth mineral processing, bleaching agent for textiles and wood pulp, and rust remover in metal treatment

wintersunchem.com

Marble polishing/grinding, waste water treatment, calcium removal from water, equipment cleaning and sterilizing, and photographic reducing / ink removal

wintersunchem.com

Removal of food and rust stains from countertops, plumbing fixtures and fabrics wintersunchem.com

Functions as a chelating agent, fixative, bleaching agent, analytical reagent and cleaner wintersunchem.com

Used in the dyeing industry as a mordant and as a cleaning agent sciencelab.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 containers tightly closed in a cool, dry, well-ventilated place and protect from moisture (hygroscopic); store locked up. Minimize dust generation and accumulation.

Adjudicated

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

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

INCOMPATIBILITIES

Strong oxidizing agents; strong bases and alkalis; metals; acid chlorides; chlorites and hypochlorites; silver compounds (explosive silver oxalate); furfuryl alcohol.

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

70

REVISION HISTORY

Last reviewed 2026-10-13 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.7	2026-10-13	Canonical data updated: 4 fields changed via the provenance/adjudication pipeline. • storage_precautions · 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)	canonical_change
1.6	2026-10-08	Canonical data updated: 3 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)	canonical_change
1.5	2026-10-05	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. • oel_niosh_rel · canonical change (coa.data_provenance / adjudication) • oel_idlh · canonical change (coa.data_provenance / adjudication) • oel_osha_pel · canonical change (coa.data_provenance / adjudication)	canonical_change
1.4	2026-09-24	Canonical data updated: 8 fields changed via the provenance/adjudication pipeline. • casNumber · canonical change (coa.data_provenance / adjudication) • formula · canonical change (coa.data_provenance / adjudication) • molecularWeight · canonical change (coa.data_provenance / adjudication) • physicalProperties · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication)	canonical_change
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

VERSION	DATE	CHANGE	TRIGGER
1.2	2026-07-17	Canonical data updated: 4 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) • signalWord · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-07-17	Canonical data re-verified: 10 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) • dotProperShippingName · canonical adjudication / reground (coa.data_provenance) • ghsClassification · canonical adjudication / reground (coa.data_provenance) • hazardClass · 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) • packingGroup · canonical adjudication / reground (coa.data_provenance) • signalWord · canonical adjudication / reground (coa.data_provenance) • unNumber · 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.