

TECHNICAL DATA SHEET

Oxalic Acid ACS Grade

ACS Grade

CAS NUMBER	ALLIANCE CODE	GENERATED
144-62-7	oxalic-acid-acs-grade	2026-08-31
REVISION	REVIEWED	
1.3	2026-07-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
Oxalic Acid ACS Grade	oxalic-acid-acs-grade
GRADE	CONCENTRATION
ACS Grade	—
CAS NUMBER	FORMULA
144-62-7 PubChem	C2H2O4 PubChem
MOLECULAR WEIGHT	PRODUCT TYPE
90.03 PubChem	pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay	99.5–102.5%	101.0 %	Redox Titration	Supplier specification
Calcium (Ca)	0.001 % max	0.0002 %	—	ACS Reagent Chemicals
Chloride (Cl)	0.002 % max	0.0003 %	—	ACS Reagent Chemicals

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Heavy metals	5 ppm max	0.5 ppm	ICP-OES	ACS Reagent Chemicals
Insoluble material	≤0.005%	0.001%	—	Supplier specification
Iron (Fe)	2 ppm max	0.3 ppm	—	ACS Reagent Chemicals
Nitrogen compounds (as N)	≤0.001%	0.0002 %	—	Supplier specification
Residue after ignition	0.01 % max	0.002 %	—	ACS Reagent Chemicals
Substances darkened by hot sulfuric acid	To pass test	Passes test	—	ACS Reagent Chemicals
Sulfates (SO ₄)	0.005 % max	0.001 %	—	ACS Reagent Chemicals
Identification (Infrared absorption)	Conforms to reference spectrum of oxalic acid dihydrate	Passes test	FTIR, KBr disc, comparison to reference spectrum	Interpreted

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.

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	Oxalic acid is an odorless white solid. Sinks and mixes with water. (USCG, 1999)	Published reference
Form	Solid	Published reference
Odor	Odorless.	Published reference
Density	1.9 at 59 °F (USCG, 1999) – Denser than water; will sink	Published reference
Boiling Point	Sublimes (NIOSH, 2024)	Published reference
Melting Point	99 – 102 C (with decomposition)	Interpreted
Vapor Pressure	0.001 mmHg at 68 °F (NTP, 1992)	Published reference
Solubility (water)	50 to 100 mg/mL at 75 °F (NTP, 1992)	Published reference

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

Danger **Adjudicated**

H-CODES (HAZARD STATEMENTS)

H302, H312, H315, H318, H373 **Adjudicated**

P-CODES (PRECAUTIONARY STATEMENTS)

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

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

Storage: Room Temperature [mpbio.com](https://www.mpbio.com)

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

Consult the SDS for material-specific incompatibilities.

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

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.

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
70

REVISION HISTORY

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

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
1.1	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
1.2	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
1.0	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.