# TECHNICAL DATA SHEET

## Oxalic Acid ACS Grade

Revised: 04/27/2026

## PRODUCT IDENTIFICATION


**Product Name:** Oxalic Acid ACS Grade
**CAS Number:** 144-62-7
**Molecular Formula:** $C_2H_2O_4$
**Molecular Weight:** 90.03 g/mol
**Grade:** ACS Grade
**Purity / Concentration:** 99.6%
**Synonyms:** Ethanedioic Acid, Oxalic Acid Dihydrate

## PRODUCT OVERVIEW

Alliance Chemical offers high-purity Oxalic Acid ACS Grade, a versatile colorless crystalline solid with a 99.85% assay. This reagent-grade chemical is meticulously tested to ensure low trace metal content, such as 0.1 ppm of iron, making it an ideal choice for precise laboratory and industrial applications.

**Grade Significance:** ACS Grade signifies that the product meets the stringent purity standards set by the American Chemical Society, ensuring it is suitable for use in sensitive analytical procedures where reagent consistency is critical.

## CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER | UNIT | TYPICAL | MIN | MAX | TEST METHOD |
|---|---|---|---|---|---|
| Assay (wt%) | % | 99.85 | 99.5 | — | Titration |
| Color (APHA) | APHA | 5 | — | 10 | Visual Comparison |
| Residue After Ignition | % | 0.0030 | — | 0.01 | Gravimetric |
| Water Content | % | 0.2 | — | 0.3 | Karl Fischer Titration |
| Heavy Metals (as Pb) | ppm | 0.2 | — | 5 | ICP-MS |
| Iron (Fe) | ppm | 0.1 | — | 2 | ICP-MS |
| Chloride ($Cl^-$) | ppm | 1 | — | 5 | Ion Chromatography |
| Sulfate ($SO_4^{2-}$) | ppm | 2 | — | 10 | Turbidimetry |
| Substances Darkened By H2So4 | — | Passes Test | — | — | Visual |

*ND = Not Detected. Values are typical and may vary by lot.*

## PHYSICAL & CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance** | Colorless, crystalline solid | **Odor** | Odorless |
| **Form** | Solid | **Boiling Point** | 101°C (213.8°F) |
| **Melting / Freezing Point** | 101°C (213.8°F) | **Specific Gravity** | 1.653 |
| **Solubility** | Soluble in water, alcohol, and ether | **Molecular Formula** | $C_2H_2O_4$ |
| **Molecular Weight** | 90.03 g/mol | **Vapor Pressure (20°C)** | 0.0001 mmHg |
| **Density (25°C)** | 1.65 g/mL | **Decomposition Temp.** | Decomposes on heating; no distinct melting point |

## APPLICATIONS

1. **Metalworking** — Used extensively for cleaning and polishing metal surfaces due to its superior ability to dissolve rust and industrial scale.
2. **Analytical Chemistry** — Serves as a reliable reagent for titrations and the accurate determination of various metal ions in solution.
3. **Water Treatment** — Utilized as an effective chemical agent for adjusting pH levels in complex industrial water processing systems.
4. **Organic Synthesis** — Acts as a key oxidizing agent, facilitating essential chemical reactions in the production of specialized organic compounds.

## STORAGE & HANDLING

Oxalic Acid must be stored in a cool, dry, and well-ventilated area to maintain its chemical integrity and prevent clumping. Because the material is classified as harmful if swallowed or in contact with skin, secure storage is essential to prevent accidental exposure and ensure workplace safety.

- Store in a cool, dry place away from incompatible materials.
- Use containers made of HDPE or glass to prevent reactions.
- Avoid exposure to moisture and direct sunlight.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.
- Ensure adequate ventilation in storage areas to minimize inhalation risks.

## AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 55 Lbs.

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

**Signal Word: Warning**

**Hazard Statements:**

- H302: Harmful if swallowed [Warning Acute toxicity, oral]
- H312: Harmful in contact with skin [Warning Acute toxicity, dermal]

**Emergency Contact:** CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

*For complete safety information, refer to the Safety Data Sheet (SDS) for this product.*

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