# TECHNICAL DATA SHEET

## Oxalic Acid, Dihydrate - Ethanedioic Acid

Revised: 04/27/2026

## PRODUCT IDENTIFICATION


**Product Name:** Oxalic Acid, Dihydrate - Ethanedioic Acid
**CAS Number:** 6153-56-6
**Molecular Formula:** $C_2H_6O_6$
**Molecular Weight:** 126.07 g/mol
**Grade:** Technical
**Purity / Concentration:** Not Available
**Synonyms:** Ethanedioic Acid, Oxalic Acid Dihydrate

## PRODUCT OVERVIEW

Oxalic Acid Dihydrate is a high-purity technical grade dicarboxylic acid featuring a 99.8% assay concentration and exceptionally low impurity levels, including iron at 0.2 ppm. This crystalline solid is widely utilized for its effective chelating and cleaning properties in industrial metal treatment and analytical applications.

**Grade Significance:** Technical grade indicates that this product is manufactured for industrial and commercial utility, offering a balance of high purity and cost-effectiveness for heavy-duty applications.

## CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER | UNIT | TYPICAL | MIN | MAX | TEST METHOD |
|---|---|---|---|---|---|
| Assay (wt%) | % | 99.8 | 99.5 | — | Titration |
| Residue After Ignition | % | 0.0030 | — | 0.01 | Gravimetric |
| Heavy Metals (as Pb) | ppm | 0.5 | — | 5 | ICP-MS |
| Iron (Fe) | ppm | 0.2 | — | 2 | ICP-MS |
| Chloride ($Cl^-$) | ppm | 1 | — | 5 | Ion Chromatography |
| Sulfate ($SO_4^{2-}$) | ppm | 2 | — | 10 | Ion Chromatography |
| Insoluble Matter | % | 0.0010 | — | 0.0050 | Gravimetric |
| Nitrogen Compounds As N | ppm | 1 | — | 5 | Spectrophotometry |

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

## PHYSICAL & CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance** | Colorless crystals | **Odor** | Odorless |
| **Form** | Solid | **Melting / Freezing Point** | 101°C (213.8°F) |
| **Specific Gravity** | 1.653 | **Solubility** | Soluble in water, alcohol, and ether |
| **Molecular Formula** | $C_2H_6O_6$ | **Molecular Weight** | 126.07 g/mol |
| **Density (25°C)** | 1.65 g/mL | | |

## APPLICATIONS

1. **Metalworking** — Used extensively for the removal of rust, tarnish, and mineral scale from metal surfaces to restore finish and integrity.
2. **Analytical Chemistry** — Serves as a high-precision reagent in titration procedures and various laboratory analytical methods due to its consistent purity.
3. **Water Treatment** — Applied in specialized water treatment processes to effectively adjust and maintain desired pH levels.
4. **Chemical Manufacturing** — Utilized as a versatile oxidizing agent in various synthetic chemical reactions and industrial formulations.

## STORAGE & HANDLING

Oxalic acid should be stored in a cool, dry, well-ventilated area away from incompatible substances like strong oxidizers or bases. Proper storage is essential to prevent moisture absorption and to mitigate the health risks associated with its acute oral and dermal toxicity.

- Store in a cool, dry place away from direct sunlight.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.
- Keep container tightly closed when not in use to prevent moisture absorption.
- Incompatible with strong bases and strong oxidizing agents.
- Ensure proper ventilation when handling to avoid inhalation of dust.

## AVAILABLE PACKAGING

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

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

**Signal Word: Danger**

**Hazard Statements:**

- H302+H312 (12.7%): Harmful if swallowed or in contact with skin [Warning Acute toxicity, oral; acute toxicity, dermal]
- H302 (98.8%): Harmful if swallowed [Warning Acute toxicity, oral]
- H312 (98.4%): Harmful in contact with skin [Warning Acute toxicity, dermal]
- H315 (18.9%): Causes skin irritation [Warning Skin corrosion/irritation]
- H318 (39.9%): Causes serious eye damage [Danger Serious eye damage/eye irritation]
- H373 (21.4%): May causes damage to organs through prolonged or repeated exposure [Warning Specific target organ toxicity, repeated exposure]

**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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