

### PRODUCT IDENTIFICATION



**Product Name:** 75% Vinegar ACS Grade

**CAS Number:** 64-19-7

**Molecular Formula:**  $C_2H_4O_2$

**Molecular Weight:** 60.05 g/mol

**Grade:** ACS Grade

**Purity / Concentration:** 75%

**Synonyms:** Acetic Acid Solution, Vinegar Solution

### PRODUCT OVERVIEW

Alliance Chemical offers 75% Vinegar (Acetic Acid Solution) in high-purity ACS Grade, characterized by a precise 75% assay and exceptionally low residue levels of 1 ppm. This clear, acidic liquid serves as a reliable reagent and pH regulator for demanding laboratory and industrial applications.

**Grade Significance:** ACS Grade signifies that the product meets the rigorous purity standards set by the American Chemical Society, ensuring consistent performance for analytical and laboratory-grade applications.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER               | UNIT     | TYPICAL    | MIN    | MAX    | TEST METHOD       |
|-------------------------|----------|------------|--------|--------|-------------------|
| Assay (Titration)       | %        | 75         | 74.5   | 75.5   | Titration         |
| Color (APHA/Hazen)      | APHA     | 3          | —      | 10     | Spectrophotometry |
| Specific Gravity (20°C) | g/mL     | 1.0685     | 1.0665 | 1.0705 | Hydrometer @ 20°C |
| Residue On Evaporation  | ppm      | 1          | 0      | 50     | Evaporation       |
| Chloride Cl             | ppm      | ≤ 0.75 ppm | —      | —      | ICP               |
| Sulfate So4             | ppm      | ≤ 0.75 ppm | —      | —      | ICP               |
| Acid Value              | mg KOH/g | 0.01       | —      | 0.75   | Titration         |
| Acidity                 | %        | 0.05       | —      | 0.11   | Titration         |
| Aldehydes               | %        | ≤ 0.04 %   | —      | —      | Per specification |
| Free Acid               | %        | 0.01       | 0      | 0.04   | Titration         |
| Sulfite So3             | ppm      | ≤ 0.75 ppm | —      | —      | ICP               |

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

## PHYSICAL & CHEMICAL PROPERTIES

|                                 |                                                                                   |                                      |                                                                                                               |
|---------------------------------|-----------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Appearance</b>               | Clear, acidic liquid with water-like transparency                                 | <b>Odor</b>                          | Pungent, vinegar-like odor                                                                                    |
| <b>Form</b>                     | Liquid                                                                            | <b>Boiling Point</b>                 | not characterized for the solution                                                                            |
| <b>Melting / Freezing Point</b> | not characterized for the solution                                                | <b>Flash Point</b>                   | Combustible only; closed cup >100 °C (INEOS/ Columbus) — not flammable. (Prior 104 °F was the glacial value.) |
| <b>Solubility</b>               | Complete water miscibility                                                        | <b>Molecular Formula</b>             | C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>                                                                  |
| <b>Molecular Weight</b>         | 60.05 g/mol                                                                       | <b>Vapor Pressure (20°C)</b>         | 15 mmHg                                                                                                       |
| <b>Viscosity (25°C)</b>         | 1.2 cP                                                                            | <b>Refractive Index (20°C)</b>       | 1.373                                                                                                         |
| <b>Density (25°C)</b>           | 1.05 g/mL                                                                         | <b>Partition Coefficient (log P)</b> | -0.24                                                                                                         |
| <b>Decomposition Temp.</b>      | Not applicable under normal use; decomposes at elevated temperatures (~350-400°C) |                                      |                                                                                                               |

## APPLICATIONS

- 1. Water Treatment** — This solution is used to accurately adjust pH levels in water treatment processes to ensure optimal chemical balance and compliance.
- 2. Food and Beverage** — It acts as a highly effective preservative, utilizing its controlled acidity to extend shelf life and maintain product safety.
- 3. Chemical Synthesis** — Serving as a key reagent, this grade is essential for the synthesis of complex organic compounds requiring high-purity inputs.
- 4. Laboratory Research** — Utilized as a solvent in organic synthesis and extraction processes where minimal contamination is critical to experimental success.

## STORAGE & HANDLING

Due to its classification as a corrosive liquid that causes severe skin burns and eye damage, this product must be stored in a cool, well-ventilated area away from incompatible materials. Proper containment prevents hazardous spills and ensures the integrity of the chemical properties by minimizing potential environmental degradation.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and bases.
- Ensure proper ventilation in storage areas to minimize vapor accumulation.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles when handling.

## AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

## SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



### Hazard Statements:

- H314: Causes severe skin burns and eye damage

**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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