

### PRODUCT IDENTIFICATION



**Product Name:** 5% Diluted Acetic Acid Food Grade

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

**Molecular Formula:**  $C_2H_4O_2$

**Molecular Weight:** 60.05 g/mol

**Grade:** Food Grade

**Purity / Concentration:** 5%

**Synonyms:** Vinegar, Acetic Acid Solution

### PRODUCT OVERVIEW

Alliance Chemical provides high-quality 5% Diluted Acetic Acid, a versatile food-grade solution formulated for consistent acidity and purity. With an assay of 5.05% and a low APHA color rating of 5, this product serves as a reliable ingredient for food preservation, flavor enhancement, and industrial cleaning applications.

**Grade Significance:** Food Grade certification guarantees that this acetic acid meets stringent purity standards, ensuring it is safe for human consumption and free from harmful heavy metals or contaminants.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER               | UNIT | TYPICAL    | MIN    | MAX    | TEST METHOD       |
|-------------------------|------|------------|--------|--------|-------------------|
| Assay (Titration)       | %    | 5          | 4.7    | 5.3    | Titration         |
| Color (APHA/Hazen)      | APHA | 3          | —      | 10     | Spectrophotometry |
| pH                      | —    | 2.4        | 2.3    | 2.5    | pH Meter          |
| Specific Gravity (20°C) | g/mL | 1.0007     | 0.9977 | 1.0036 | Hydrometer @ 25°C |
| Residue On Evaporation  | ppm  | 15         | 0      | 50     | Evaporation       |
| Water Karl Fischer      | %    | ≤ 0.01 %   | —      | —      | Karl Fischer      |
| Arsenic Antimony As As  | ppm  | 0.5        | 0      | 1      | ICP-MS            |
| Lead Pb                 | ppm  | 0.2        | 0      | 0.5    | ICP-MS            |
| Chloride Cl             | ppm  | ≤ 0.05 ppm | —      | —      | ICP               |
| Sulfate So4             | ppm  | ≤ 0.05 ppm | —      | —      | ICP               |
| Acidity                 | %    | ≤ 0.01 %   | —      | —      | Titration         |
| Distillation Range      | —    | 0.43       | —      | 0.05   | Per specification |
| Mercury Hg              | ppm  | 0.05       | 0      | 0.1    | ICP-MS            |
| Sulfite So3             | ppm  | ≤ 0.05 ppm | —      | —      | ICP               |

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

## PHYSICAL & CHEMICAL PROPERTIES

|                                |                                              |                         |                             |
|--------------------------------|----------------------------------------------|-------------------------|-----------------------------|
| <b>Appearance</b>              | Clear, colorless liquid                      | <b>Odor</b>             | Pungent, vinegar-like odor  |
| <b>Form</b>                    | Liquid                                       | <b>Boiling Point</b>    | 100°C (212°F)               |
| <b>Flash Point</b>             | 11°C (52°F)                                  | <b>Solubility</b>       | Completely soluble in water |
| <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> | 1.0 cP                      |
| <b>Refractive Index (20°C)</b> | 1.373                                        | <b>Density (25°C)</b>   | 1.005 g/mL                  |

## APPLICATIONS

1. **Food Processing** — Utilized as a natural preservative in pickling and canning to effectively inhibit microbial growth.
2. **Culinary Manufacturing** — Commonly integrated into salad dressings and marinades to provide a clean, sharp flavor profile.
3. **Food Science** — Used as an acidity regulator to stabilize the pH levels of various food products for shelf-life extension.
4. **Industrial Cleaning** — Employed in specialized cleaning solutions due to its mild acidity and effective descaling properties.

## STORAGE & HANDLING

Proper storage is critical because this product is a flammable liquid and vapor with a flash point of 11°C. It must be kept in a cool, well-ventilated area away from heat sources and ignition points to prevent fire hazards and ensure product stability.

- 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 when handling to minimize inhalation risks.
- Wear appropriate personal protective equipment (PPE) such as gloves and goggles.

## 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:

- H226: Flammable liquid and vapor [Warning Flammable liquids]
- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]

**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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