

### PRODUCT IDENTIFICATION



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

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

**Molecular Formula:** C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

**Molecular Weight:** 60.05 g/mol

**Grade:** ACS Grade

**Purity / Concentration:** 75%

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

### PRODUCT OVERVIEW

Alliance Chemical offers high-purity 75% Vinegar (Acetic Acid Solution), an ACS Grade reagent characterized by exceptional clarity and strictly controlled impurity levels, including low heavy metals and iron content. This concentration serves as a vital component in precision chemical synthesis, industrial pH adjustment, and food-grade preservation applications.

**Grade Significance:** ACS Grade signifies that this chemical meets the rigorous purity standards set by the American Chemical Society, ensuring that trace contaminants are kept below strict thresholds for reliable, repeatable results in analytical and industrial applications.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	75.3	74	77	Titration with NaOH
Color (APHA)	APHA	5	—	10	ASTM D1209
Residue After Ignition	%	0.0010	—	0.0050	ACS Method
Water Content	%	0.2	—	0.5	Karl Fischer Titration
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-MS
Iron (Fe)	ppm	0.02	—	0.5	ICP-MS
Chloride (Cl <sup>-</sup> )	ppm	0.1	—	1	Ion Chromatography
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	ppm	0.2	—	5	Ion Chromatography
Acetic Anhydride	%	0.0010	—	0.1	GC-FID
Formic Acid	%	0.0020	—	0.1	GC-FID

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>	118°C (244.4°F)
<b>Melting / Freezing Point</b>	16°C (60.8°F)	<b>Flash Point</b>	39°C (102.2°F)
<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

- Water Treatment** — This acetic acid solution is utilized to precisely adjust pH levels in industrial water treatment processes to ensure optimal chemical balance.
- Food & Beverage** — It serves as an effective preservative in various food products, leveraging its acidity to inhibit microbial growth and enhance shelf stability.
- Chemical Manufacturing** — The product acts as a fundamental reagent in the synthesis of complex organic compounds, providing a consistent and reliable chemical building block.
- Laboratory Research** — Utilized as a high-purity solvent in organic synthesis and extraction processes where minimal trace impurities are critical for accurate experimental outcomes.

## STORAGE & HANDLING

Proper storage is essential because this product is classified as a flammable liquid with a flash point of 39°C, requiring a cool, well-ventilated environment away from heat sources. Additionally, its corrosive nature necessitates secondary containment and materials compatible with acidic substances to prevent severe skin burns and equipment damage.

- 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:

- 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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