

PRODUCT IDENTIFICATION



Product Name: Acetic Acid Glacial ACS Grade

CAS Number: 64-19-7

Molecular Formula: $C_2H_4O_2$

Molecular Weight: 60.05 g/mol

Grade: ACS Grade

Purity / Concentration: 100%

Synonyms: Ethanoic Acid, Vinegar Acid

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Acetic Acid Glacial in ACS Grade, ensuring a minimum assay of 99.9% with exceptionally low impurity levels. This clear, colorless liquid is a critical reagent for precise analytical testing and industrial synthesis where consistency is paramount.

Grade Significance: ACS Grade indicates that the product meets the stringent purity standards set by the American Chemical Society, ensuring it is suitable for demanding laboratory and analytical applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	99.7	99.2	100.2	Titration
Color (APHA/Hazen)	APHA	3	—	10	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.051	1.048	1.053	Hydrometer @ 25°C
Non-Volatile Residue	%	ND	0	0.05	Residue on Ignition
Water Karl Fischer	%	0.07	—	0.2	Karl Fischer
Heavy Metals As Pb	ppm	ND	—	1	ICP-MS (as Pb)
Iron (Fe)	ppm	ND	—	1	ICP-MS
Chloride Cl	ppm	≤ 1 ppm	—	—	ICP
Sulfate So4	ppm	≤ 1 ppm	—	—	ICP
Acid Value	mg KOH/g	≤ 0.05 mg KOH/g	—	—	Titration
Acidity	%	0.05	—	0.5	Titration
Aldehydes	%	ND	—	0.05	Per specification
Distillation Range	—	0.6	—	1	Per specification
Free Acid	%	0.01	0	0.05	Titration
Stability Available Oxygen	%	16.4	2	—	Stability Test
Sulfite So3	ppm	≤ 1 ppm	—	—	ICP

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless, clear liquid	Odor	Pungent, vinegar-like
Form	Liquid	Boiling Point	244 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	61.9 °F (NTP, 1992)	Flash Point	104 °F (NTP, 1992)
Specific Gravity	1.049	Solubility	Miscible with water, alcohol, and ether
Molecular Formula	C ₂ H ₄ O ₂	Molecular Weight	60.05 g/mol
Vapor Pressure (20°C)	11 mmHg	Viscosity (25°C)	0.89 cP
Refractive Index (20°C)	1.371	Density (25°C)	1.049 g/mL
Vapor Density (rel. air)	0.93	Partition Coefficient (log P)	-0.17
Decomposition Temp.	decomposes when heated strongly; no defined melting point		

APPLICATIONS

1. **Analytical Chemistry** — Used as a high-purity mobile phase component in reversed-phase chromatography to facilitate the separation of complex organic compounds.
2. **Spectroscopy** — Functions as a baseline solvent in UV-Vis spectroscopy, leveraging its low UV cutoff wavelength to ensure accurate sample readings.
3. **Pharmaceutical Manufacturing** — Acts as a foundational reagent in the synthesis of diverse pharmaceutical compounds, requiring strict adherence to purity specifications.
4. **Industrial Processing** — Utilized for precise pH adjustment and control across various manufacturing workflows that demand chemical stability.

STORAGE & HANDLING

Acetic Acid Glacial is a flammable liquid that must be stored in a cool, well-ventilated area away from ignition sources to mitigate fire risks. Proper containment is essential because the chemical is corrosive and can cause severe skin burns or eye damage upon contact.

- Store in a cool, dry place away from direct sunlight.
- Use materials compatible with acetic acid, such as HDPE or glass containers.
- Avoid contact with strong oxidizers and bases.
- Ensure proper ventilation in storage areas to minimize vapor accumulation.
- Wear appropriate personal protective equipment (PPE) including 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.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

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