

PRODUCT IDENTIFICATION



Product Name: Acetic Acid Glacial ACS Grade

CAS Number: 64-19-7

Molecular Formula: C₂H₄O₂

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 (wt%)	%	99.9	99.7	—	Titration
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.049	1.049	1.051	USP <841>
Residue After Ignition	%	0.0010	—	0.0050	ACS
Water Content	%	0.05	—	0.2	Karl Fischer Titration
Heavy Metals (as Pb)	ppm	0.1	—	0.5	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-MS
Chloride (Cl ⁻)	ppm	0.1	—	1	Ion Chromatography
Sulfate (SO ₄ ²⁻)	ppm	0.2	—	1	Ion Chromatography
Reducing Substances	—	Passes Test	—	—	ACS
Acetic Anhydride	%	0.01	—	0.1	GC

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

- Analytical Chemistry** — Used as a high-purity mobile phase component in reversed-phase chromatography to facilitate the separation of complex organic compounds.
- Spectroscopy** — Functions as a baseline solvent in UV-Vis spectroscopy, leveraging its low UV cutoff wavelength to ensure accurate sample readings.
- Pharmaceutical Manufacturing** — Acts as a foundational reagent in the synthesis of diverse pharmaceutical compounds, requiring strict adherence to purity specifications.
- 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.

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