

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

Acetic Acid Glacial ACS Grade from Alliance Chemical is a high-purity solvent and reagent, boasting an assay of 99.9% and a low color value of 5 APHA. This ACS-grade material is commonly used as a mobile phase component in chromatography and as a baseline solvent in UV-Vis spectroscopy. Its controlled impurity profile ensures reliable results in sensitive analytical applications.

Grade Significance: ACS Grade designation signifies that this Acetic Acid meets the stringent purity requirements set by the American Chemical Society. This ensures that the chemical is suitable for use in analytical and research applications where high purity and minimal interference from impurities are critical.

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°F)
Melting / Freezing Point	16°C (61°F)	Flash Point	39°C (102°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

- Pharmaceutical** — Acetic Acid Glacial ACS Grade serves as a crucial reagent in the synthesis of various pharmaceutical compounds. Its high purity ensures minimal interference and optimal reaction yields, contributing to the quality and consistency of drug manufacturing.
- Chromatography** — Commonly used as a mobile phase component in reversed-phase chromatography, Acetic Acid Glacial ACS Grade aids in separating organic compounds. Its controlled pH and purity are essential for achieving accurate and reproducible separation results.
- Spectroscopy** — As a baseline solvent in UV-Vis spectroscopy, Acetic Acid Glacial ACS Grade offers a low UV cutoff wavelength. This characteristic enables accurate spectral analysis by minimizing background interference in the ultraviolet region.
- Industrial Manufacturing** — Acetic Acid Glacial ACS Grade is utilized in various industrial processes for pH adjustment and control. Its consistent concentration and purity ensure precise pH regulation, which is crucial for many chemical reactions and formulations.
- Laboratory Reagent** — Due to its high purity and consistent quality, Acetic Acid Glacial ACS Grade is an ideal reagent for general laboratory use. Its defined specifications ensure reliable performance in a wide range of chemical experiments and analyses.
- Chemical Synthesis** — Acetic Acid Glacial ACS Grade acts as a versatile reagent and solvent in numerous chemical syntheses. Its properties, such as controlled water content (0.05%), make it suitable for reactions requiring anhydrous or precisely controlled conditions.

STORAGE & HANDLING

Acetic Acid Glacial ACS Grade is a flammable liquid and can cause severe skin burns and eye damage. Proper storage in tightly sealed containers, away from heat and ignition sources, is crucial to prevent fire hazards and maintain product integrity. Adhering to recommended storage conditions ensures the safety of personnel and prevents degradation of the acetic acid, preserving its purity and performance.

- 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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