

PRODUCT IDENTIFICATION



Product Name: Acetic Acid Glacial - Food Grade

CAS Number: 64-19-7

Molecular Formula: $C_2H_4O_2$

Molecular Weight: 60.05 g/mol

Grade: Food Grade

Purity / Concentration: 100%

Synonyms: Ethanoic Acid, Vinegar Concentrate

PRODUCT OVERVIEW

Acetic Acid Glacial Food Grade is a high-purity, concentrated ethanoic acid designed for rigorous food industry standards. With a verified assay of 99.9% and minimal impurities, this versatile liquid is essential for pH control and microbial preservation in various food applications.

Grade Significance: Food Grade certification ensures the product meets strict purity thresholds and is free from harmful contaminants, making it safe for human consumption when used as directed in food manufacturing.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	99.9	99.7	—	Titration
Color (APHA/Hazen)	APHA	3.9	—	5	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.051	1.0505	1.052	Hydrometer @ 25°C
Non-Volatile Residue	%	≤ 0.001 %	—	—	Residue on Ignition
Water Karl Fischer	%	0.06	—	0.15	Karl Fischer
Arsenic Antimony As As	ppm	0.5	0	1	ICP-MS
Heavy Metals As Pb	ppm	≤ 0.5 ppm	—	—	ICP-MS (as Pb)
Iron (Fe)	ppm	≤ 0.5 ppm	—	—	ICP-MS
Lead Pb	ppm	0.2	0	0.5	ICP-MS
Chloride Cl	ppm	≤ 1 ppm	—	—	ICP
Sulfate So4	ppm	≤ 1 ppm	—	—	ICP
Acidity	%	0.05	—	1	Titration
Aldehydes	%	ND	—	0.05	Per specification
Distillation Range	—	0.6	—	1	Per specification
Mercury Hg	ppm	0.05	0	0.1	ICP-MS
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 odor
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)
Solubility	Miscible with water, alcohol, and many organic solvents	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		

APPLICATIONS

- Food Processing** — Used as a preservative to lower pH levels and inhibit the growth of spoilage-causing microorganisms.
- Condiment Manufacturing** — Serves as a key ingredient in sauces, dressings, and marinades to provide a sharp, clean acidity and enhance flavor profiles.
- Beverage Production** — Utilized to precisely adjust the acidity levels of various food-based beverage products to ensure consistency and shelf stability.
- Chemical Synthesis** — Functions as a high-purity reagent in the synthesis of food additives and flavor compounds requiring stringent purity levels.

STORAGE & HANDLING

Proper storage is critical because glacial acetic acid is a flammable liquid with a flash point of 39°C, requiring a cool, well-ventilated area away from ignition sources. Additionally, its corrosive nature necessitates containers that prevent leakage to protect personnel from severe skin and eye 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 when handling to minimize inhalation risks.
- 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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