

PRODUCT IDENTIFICATION



Product Name: 50% Diluted Acetic Acid Food Grade

CAS Number: 64-19-7

Molecular Formula: $C_2H_4O_2$

Molecular Weight: 60.05 g/mol

Grade: Food Grade

Purity / Concentration: 50%

Synonyms: Vinegar Essence, Acetic Acid Solution

PRODUCT OVERVIEW

Alliance Chemical offers 50% Diluted Acetic Acid in a high-purity Food Grade, characterized by a precise 50% assay and exceptional low-impurity profile. This clear, colorless solution is an essential ingredient for professional food production, ensuring consistent flavor enhancement and microbial control.

Grade Significance: Food Grade designation confirms that the product meets stringent purity standards and heavy metal limits, ensuring it is 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)	%	50	49.5	50.5	Titration
Color (APHA/Hazen)	APHA	3	—	10	Spectrophotometry
pH	—	1.9	1.8	2	pH Meter
Specific Gravity (20°C)	g/mL	1.061	1.059	1.063	Hydrometer @ 20°C
Non-Volatile Residue	%	ND	0	0.03	Residue on Ignition
Residue On Evaporation	ppm	1	0	50	Evaporation
Arsenic Antimony As As	ppm	0.5	0	1	ICP-MS
Iron (Fe)	ppm	≤ 1 ppm	—	—	ICP-MS
Lead Pb	ppm	0.2	0	0.5	ICP-MS
Chloride Cl	ppm	≤ 0.5 ppm	—	—	ICP
Sulfate So4	ppm	≤ 0.5 ppm	—	—	ICP
Acid Value	mg KOH/g	0.01	0	0.03	Titration
Acidity	%	0.02	—	0.08	Titration
Aldehydes	%	≤ 0.03 %	—	—	Per specification
Mercury Hg	ppm	0.05	0	0.1	ICP-MS
Sulfite So3	ppm	≤ 0.5 ppm	—	—	ICP

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Pungent, vinegar-like odor
Boiling Point	100-118°C	Flash Point	11°C (52°F)
Specific Gravity	~1.058	Solubility	Fully miscible in water
Molecular Formula	C ₂ H ₄ O ₂	Molecular Weight	60.05 g/mol
Vapor Pressure (20°C)	15 mmHg	Viscosity (25°C)	1.2 cP
Refractive Index (20°C)	1.371	Density (25°C)	1.025 g/mL

APPLICATIONS

1. **Food Processing** — Functions as a reliable preservative to inhibit the growth of spoilage-causing microbes in various food items.
2. **Culinary Manufacturing** — Used as a key ingredient to balance flavor profiles and acidity in commercial dressings, sauces, and marinades.
3. **Food Service Sanitation** — Acts as an effective agent in cleaning solutions for food preparation areas due to its potent degreasing capabilities.
4. **Beverage Production** — Utilized to precisely adjust the pH levels of specific beverage formulations to ensure optimal taste and stability.

STORAGE & HANDLING

Proper storage is critical because this 50% concentration is classified as a hazardous material that causes severe skin burns and eye damage. It must be kept in a cool, well-ventilated area away from incompatible substances to prevent dangerous reactions and maintain product integrity.

- 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) such as 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:

- H314: Causes severe skin burns and eye damage

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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