

PRODUCT IDENTIFICATION

**Product Name:** 10% 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:** 10%**Synonyms:** Diluted Acetic Acid, Vinegar Acid

PRODUCT OVERVIEW

Alliance Chemical offers high-quality 10% Diluted Acetic Acid in Food Grade, ensuring strict adherence to purity standards with a precise 10% assay and minimal impurity levels. This clear, colorless liquid is an essential ingredient for food preservation, pH adjustment, and flavor enhancement in commercial culinary applications.

Grade Significance: Food Grade certification guarantees that the chemical meets rigorous purity and safety standards suitable for human consumption, ensuring that all trace impurities are kept well below regulatory limits.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	10	9	11	Titration with standardized NaOH
Color (APHA)	APHA	10	—	20	APHA/Hazen visual comparison
Specific Gravity (20°C)	g/mL	1.008	1.003	1.013	Hydrometer or pycnometer at 20°C
Specific Gravity (25°C)	g/mL	1.01	1.005	1.015	Hydrometer or pycnometer at 25°C
Residue After Ignition	%	0.01	—	0.05	Gravimetric residue after ignition
Water Content	%	89.85	—	91	Karl Fischer titration (diluent water — composition basis; product is a 10% aqueous dilution; typical = 100 – assay – trace impurities)
Aluminum (Al)	ppm	0.1	—	1	ICP-OES
Arsenic (As)	ppm	0.02	—	0.1	ICP-MS
Calcium (Ca)	ppm	200.0	—	1000.0	ICP-OES
Chromium (Cr)	ppm	0.02	—	0.2	ICP-OES
Cobalt (Co)	ppm	0.01	—	0.2	ICP-OES
Copper (Cu)	ppm	0.05	—	0.5	ICP-OES
Heavy Metals (as Pb)	ppm	0.05	—	0.5	ICP-MS
Iron (Fe)	ppm	0.1	—	0.5	ICP-OES
Lead (Pb)	ppm	0.02	—	0.2	ICP-OES
Magnesium (Mg)	ppm	50	—	300.0	ICP-OES
Manganese (Mn)	ppm	0.05	—	0.5	ICP-OES
Nickel (Ni)	ppm	0.05	—	0.5	ICP-OES
Potassium (K)	ppm	100.0	—	500.0	ICP-OES
Sodium (Na)	ppm	1000.0	—	5000.0	ICP-OES
Zinc (Zn)	ppm	0.05	—	0.5	ICP-OES
Ammonium (NH ₄ ⁺)	ppm	1	—	5	Ion Chromatography (IC) or colorimetric kit
Chloride (Cl ⁻)	ppm	10	—	50	Ion Chromatography (IC) or IC-ICP
Nitrate (NO ₃ ⁻)	ppm	5	—	20	Ion Chromatography (IC)
Phosphate (PO ₄ ³⁻)	ppm	5	—	50	Ion Chromatography (IC)
Sulfate (SO ₄ ²⁻)	ppm	20	—	100.0	Ion Chromatography (IC)
Substances Darkened by H ₂ SO ₄	—	Passes test	—	—	Colorimetric comparison after H ₂ SO ₄ oxidation
Substances Reducing KMnO ₄	—	Passes test	—	—	Potassium permanganate time test
Acidity (meq)	meq	0.2	—	0.5	Acid-base titration
Aldehydes	ppm	1	—	5	Gas Chromatography (GC) with derivatization or HPLC

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid with mild vinegar odor	Odor	Pungent, vinegar-like odor
Form	Liquid solution	Boiling Point	118°C (244.4°F)
Melting / Freezing Point	16°C (60.8°F)	Flash Point	39°C (102.2°F)
Specific Gravity	1.01-1.013 (10% aqueous solution, 20 °C)	Solubility	Complete water miscibility
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
Density (25°C)	1.01 g/mL	Decomposition Temp.	Decomposes upon strong heating; Stable at ambient conditions

APPLICATIONS

- Food Processing** — Functions as a reliable preservative in pickling and canning processes to effectively inhibit microbial growth.
- Culinary Manufacturing** — Used as a key flavor-enhancing agent in the production of high-quality dressings, sauces, and marinades.
- Food Safety** — Utilized to precisely adjust the pH levels of food products, ensuring consistent safety and shelf-stability across batches.
- Commercial Sanitation** — Acts as an effective, food-safe cleaning agent for sanitizing kitchen surfaces and food processing equipment.

STORAGE & HANDLING

Proper storage is critical because this product is classified as a hazardous material capable of causing severe skin burns and eye damage. It must be kept in a cool, well-ventilated area away from incompatible substances to maintain chemical integrity and ensure workplace safety.

- Store in a cool, dry place away from direct sunlight.
- Use HDPE containers for storage to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and bases.
- Ensure proper ventilation in storage areas to prevent vapor accumulation.
- Wear appropriate personal protective equipment (PPE) when handling.

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.

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