

PRODUCT IDENTIFICATION



Product Name: 50% Vinegar - Concentrated Industrial Strength

CAS Number: 64-19-7

Molecular Formula: C₂H₄O₂

Molecular Weight: 60.05 g/mol

Grade: Technical

Purity / Concentration: 50%

Synonyms: Acetic Acid Solution, Industrial Vinegar

PRODUCT OVERVIEW

Alliance Chemical offers high-quality 50% Concentrated Industrial Vinegar, a versatile technical-grade acetic acid solution. With a precise 50.3% assay and exceptional purity, this clear, colorless liquid is engineered for demanding industrial pH control and chemical synthesis applications.

Grade Significance: Technical grade signifies that this product is manufactured to meet rigorous industrial standards, ensuring consistent performance and purity for commercial and manufacturing tasks.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	50.3	49	51	Titration with NaOH
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.061	1.058	1.064	ASTM D4052
Residue After Ignition	%	0.0020	—	0.01	Gravimetric
Iron (Fe)	ppm	0.1	—	2	ICP-OES
Chloride (Cl ⁻)	ppm	0.2	—	5	Ion Chromatography
Sulfate (SO ₄ ²⁻)	ppm	0.5	—	10	Ion Chromatography

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Pungent, vinegar-like odor
Form	Liquid	Boiling Point	118°C (244.4°F)
Melting / Freezing Point	16°C (60.8°F)	Flash Point	68–72
Solubility	Fully water soluble	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)	1.373
Density (25°C)	1.05 g/mL		

APPLICATIONS

1. **Water Treatment** — This concentrated solution is frequently used to effectively lower pH levels in industrial water treatment processes to maintain operational balance.
2. **Food Processing** — It acts as a reliable preservative and flavoring agent in the production of various food products, ensuring consistent quality and shelf stability.
3. **Chemical Manufacturing** — As a key reactant, this product serves as a fundamental building block for the synthesis of diverse organic compounds in laboratory and industrial settings.
4. **Industrial Cleaning** — The high concentration makes it highly effective at dissolving stubborn mineral deposits and stains from industrial machinery and surfaces.

STORAGE & HANDLING

Proper storage is critical because this product is classified as a flammable liquid and can cause severe skin burns and eye damage. It must be kept in a cool, well-ventilated area away from heat sources and incompatible materials to prevent hazardous vapor buildup and accidental contact.

- 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 oxidizers 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:

- 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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