TECHNICAL DATA SHEET

Isopropyl Alcohol 99.9% ACS Reagent Grade

Revised: 08/10/2026

PRODUCT IDENTIFICATION

Product Name: Isopropyl Alcohol 99.9% ACS Reagent Grade
CAS Number: 67-63-0
Molecular Formula: C_3H_8O
Molecular Weight: 60.10 g/mol
Grade: Reagent Grade
Purity / Concentration: 99.9%
Synonyms: Isopropanol, 2-Propanol

PRODUCT OVERVIEW

Our Isopropyl Alcohol 99.9% ACS Reagent Grade is a high-purity solvent featuring an assay of 99.9% and extremely low impurity levels, such as 0.02% water content. This colorless, highly volatile liquid is essential for demanding analytical and manufacturing processes where chemical precision is required.

Grade Significance: Reagent Grade indicates that the product meets or exceeds the strict purity standards set by the American Chemical Society, ensuring the consistency required for analytical and research applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.9	99	100.0	Gas Chromatography (GC) with Flame Ionization Detector (FID)
Color (APHA)	APHA	3	—	5	APHA/Hazen visual comparison
Residue After Evaporation	%	0.0010	—	0.0020	Gravimetric residue after ignition
Water Content	%	0.02	—	0.05	Karl Fischer Titration
Water Pct Max Alcohols Solvents	%	0.02	—	0.05	Karl Fischer Titration
Aluminum (Al)	ppm	0.1	—	0.5	ICP-OES
Arsenic (As)	ppm	0.02	—	0.1	ICP-MS
Calcium (Ca)	ppm	10	—	50	ICP-OES
Chromium (Cr)	ppm	0.02	—	0.1	ICP-OES
Cobalt (Co)	ppm	0.02	—	0.1	ICP-OES
Copper (Cu)	ppm	0.02	—	0.1	ICP-OES
Heavy Metals (as Pb)	ppm	0.05	—	0.2	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-OES
Lead (Pb)	ppm	0.02	—	0.1	ICP-OES
Magnesium (Mg)	ppm	10	—	50	ICP-OES
Manganese (Mn)	ppm	0.02	—	0.1	ICP-OES
Nickel (Ni)	ppm	0.02	—	0.1	ICP-OES
Potassium (K)	ppm	1	—	5	ICP-OES
Sodium (Na)	ppm	1	—	5	ICP-OES
Zinc (Zn)	ppm	0.1	—	0.5	ICP-OES
Ammonium (NH_4^+)	ppm	0.5	—	2	Ion Chromatography (IC)
Chloride (Cl^-)	ppm	2	—	5	Ion Chromatography (IC) or Silver Nitrate argentometric titration
Nitrate (NO_3^-)	ppm	1	—	5	Ion Chromatography (IC)
Phosphate (PO_4^{3-})	ppm	1	—	5	Ion Chromatography (IC)
Sulfate (SO_4^{2-})	ppm	1	—	5	Ion Chromatography (IC)
Substances Darkened by H_2SO_4	—	Passes test	—	—	Colorimetric test with sulfuric acid darkening assessment
Substances Reducing $KMnO_4$	—	Passes test	—	—	Potassium permanganate time test
Acidity (meq)	meq	0.0001	—	0.0003	Titration with standardized NaOH
Acidity Meq Max Alcohols Solvents	meq	0.0001	—	0.0003	Titration with standardized NaOH
Aldehydes	ppm	5	—	10	Gas Chromatography (GC) with appropriate derivatization or specific aldehyde assay
Aldehydes Ppm Max Alcohols Solvents	ppm	5	—	10	GC or HPLC aldehyde assay

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Transparent, mobile liquid with high volatility	**Odor**	Characteristic alcohol odor
Form	Liquid	**Boiling Point**	180.5 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	-127.3 °F (NTP, 1992)	**Flash Point**	53 °F (NTP, 1992)
Solubility	Complete water miscibility, dissolves many orga...	**Molecular Formula**	C_3H_8O
Molecular Weight	60.10 g/mol	**Vapor Pressure (20°C)**	43 mmHg
Viscosity (25°C)	0.88 cP	**Refractive Index (20°C)**	1.377
Density (25°C)	0.786 g/mL		

APPLICATIONS

1. **Analytical Chemistry** — Functions as a reliable mobile phase component in reversed-phase chromatography for the precise separation of organic compounds.
2. **Laboratory Research** — Acts as a baseline solvent in UV-Vis spectroscopy due to its low UV cutoff wavelength, ensuring minimal background interference.
3. **Manufacturing** — Used for high-precision cleaning and degreasing of sensitive surfaces where residue-free evaporation is mandatory.
4. **Pharmaceuticals** — Utilized in liquid-liquid extraction processes to effectively isolate pharmaceutical intermediates during synthesis.

STORAGE & HANDLING

Proper storage is critical because this chemical is a highly flammable liquid with a flash point of 53 °F. It must be kept in a cool, well-ventilated area away from heat sources and sparks to prevent fire hazards and ensure the integrity of its high-purity composition.

- Store in a cool, dry, well-ventilated area away from heat sources.
- Use materials compatible with isopropyl alcohol, such as HDPE or glass containers.
- Avoid contact with strong oxidizing agents and open flames.
- Ensure proper personal protective equipment (PPE) is worn, including gloves and safety goggles.
- Keep container tightly closed when not in use to prevent evaporation and contamination.

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:

- H225: Highly flammable liquid and vapour
- H319: Causes serious eye irritation
- H336: May cause drowsiness or dizziness

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