

PRODUCT IDENTIFICATION



Product Name: 60/40 Methanol/DI Water Solution ACS Grade

CAS Number: 67-56-1

Molecular Formula: CH₄O

Molecular Weight: 32.042 g/mol

Grade: ACS Grade

Purity / Concentration: 60%

Synonyms: Methanol-Water Solution, Methanol Dilution

PRODUCT OVERVIEW

The 60/40 Methanol/DI Water Solution is a high-purity ACS Grade solvent formulated for demanding laboratory applications. Featuring a precise 59.9% assay and minimal trace impurities, this solution provides the consistency required for reliable analytical outcomes.

Grade Significance: ACS Grade indicates that this product meets the rigorous specifications set by the American Chemical Society, ensuring the high level of purity required for analytical laboratory work.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	59.9	59.5	60.5	GC
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	0.915	—	—	USP <841>
Residue After Ignition	%	0.0005	—	0.0010	Gravimetric
Water Content	%	0.01	—	0.1	Karl Fischer
Heavy Metals (as Pb)	ppm	0.1	—	1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.1	ICP-MS
Chloride (Cl ⁻)	ppm	0.1	—	0.3	Ion Chromatography
Sulfate (SO ₄ ²⁻)	ppm	0.1	—	1	Ion Chromatography
Substances Darkened By Sulfuric Acid	Pass/Fail	Pass	—	—	Visual

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Slightly sweet odor
Form	Liquid	Boiling Point	64°C (147.2°F)
Melting / Freezing Point	-97°C (-142.6°F)	Flash Point	11°C (51.8°F)
Specific Gravity	0.895	Solubility	Miscible with water
Molecular Formula	CH ₄ O	Molecular Weight	32.042 g/mol
Vapor Pressure (20°C)	97 mmHg	Viscosity (25°C)	0.54 cP
Refractive Index (20°C)	1.3288	Density (25°C)	0.787 g/mL
Decomposition Temp.	Not applicable (decomposes before melting; standard handling at 20°C-25°C)		

APPLICATIONS

- Analytical Chemistry** — Used as a critical mobile phase component in reversed-phase HPLC for the accurate separation and analysis of complex organic compounds.
- Spectroscopy** — Serves as a reliable baseline solvent in UV-Vis spectroscopy, selected for its low UV cutoff wavelength and minimal background interference.
- Pharmaceutical Manufacturing** — Functions as a high-purity solvent in liquid-liquid extraction processes necessary for the isolation and purification of pharmaceutical intermediates.
- Organic Synthesis** — Acts as a controlled solvent and reagent in various chemical reactions, where high purity levels prevent unwanted side reactions or contamination.

STORAGE & HANDLING

Due to its classification as a highly flammable liquid, this solution must be stored in a cool, well-ventilated area away from heat sources and open flames to mitigate fire risks. Proper sealing is essential to prevent evaporation and moisture absorption, which could otherwise compromise the chemical integrity and purity levels of the solution.

- Store in a cool, dry place away from heat sources.
- Use HDPE or glass containers for storage to avoid chemical reactions.
- Keep away from strong oxidizers and acids.
- Ensure proper ventilation when handling to avoid inhalation of vapors.
- 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:

- H225: Highly Flammable liquid and vapor [Danger Flammable liquids]
- H301: Toxic if swallowed [Danger Acute toxicity, oral]
- H311: Toxic in contact with skin [Danger Acute toxicity, dermal]
- H331: Toxic if inhaled [Danger Acute toxicity, inhalation]
- H370 **: Causes damage to organs [Danger Specific target organ toxicity, single exposure]

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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