TECHNICAL DATA SHEET

60/40 Methanol/ DI Water Solution

Revised: 06/30/2026

PRODUCT IDENTIFICATION

Product Name: 60/40 Methanol/ DI Water Solution
CAS Number: 67-56-1
Molecular Formula: CH_4O
Molecular Weight: 32.042 g/mol
Grade: Technical
Purity / Concentration: 60%
Synonyms: Methanol-Water Mixture, Methanol Dilution

PRODUCT OVERVIEW

The 60/40 Methanol/DI Water Solution is a high-purity Technical grade solvent designed for precise laboratory and industrial applications. Featuring an assay of 60% and exceptional clarity at 5 APHA, this mixture is a reliable baseline solvent for critical analytical procedures.

Grade Significance: Technical grade signifies that the product meets strict purity standards suitable for industrial and laboratory tasks where reliability is required, though it is not intended for pharmaceutical or food-grade consumption.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	60	59.5	60.5	GC
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	0.925	—	—	USP <841>
Residue After Ignition	%	0.0005	—	0.0010	USP <281>
Water Content	%	40	39.5	40.5	Karl Fischer
Heavy Metals (as Pb)	ppm	0.05	—	0.5	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-MS
Chloride (Cl^-)	ppm	0.1	—	0.5	ISE
Sulfate (SO_4^{2-})	ppm	0.2	—	1	Turbidimetry

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear colorless liquid	**Odor**	Slightly sweet, alcoholic 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**	Fully water miscible
Molecular Formula	CH_4O	**Molecular Weight**	32.042 g/mol
Vapor Pressure (20°C)	440 mmHg (approx. for 60/40 methanol/water mixture; 20°C to 25°C range)	**Viscosity (25°C)**	0.54 cP
Refractive Index (20°C)	1.3288	**Density (25°C)**	0.791 g/mL
Partition Coefficient (log P)	-0.74	**Decomposition Temp.**	338

APPLICATIONS

1. **Analytical Chemistry** — This solution is frequently used as a mobile phase component in reversed-phase HPLC to achieve efficient separation of organic compounds.
2. **Spectroscopy** — Due to its low UV cutoff wavelength, this mixture serves as a standard baseline solvent for accurate readings in UV-Vis spectroscopy.
3. **Pharmaceutical Manufacturing** — The mixture is utilized in liquid-liquid extraction processes to effectively isolate complex pharmaceutical intermediates.
4. **Laboratory Maintenance** — It acts as a high-performance cleaning agent for laboratory glassware and precision equipment, ensuring surfaces are free of residues.

STORAGE & HANDLING

Proper storage is essential because this solution is highly flammable with a flash point of 11°C, necessitating a cool, well-ventilated area away from ignition sources. Additionally, the toxic nature of methanol requires secure containment to prevent accidental skin contact or inhalation in the workplace.

- Store in a cool, dry, well-ventilated area away from heat sources.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and acids.
- Keep away from light to prevent degradation.
- Use 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 vapour
- H301: Toxic if swallowed
- H311: Toxic in contact with skin
- H331: Toxic if inhaled
- H370: Causes damage to organs

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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