TECHNICAL DATA SHEET

60/40 Methanol/ DI Water Solution

Revised: 04/27/2026

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

Alliance Chemical offers a high-quality 60/40 Methanol/DI Water solution in a Technical grade, featuring a precise 60% assay and excellent purity with low impurity levels such as 0.05 ppm iron. This stable, clear, and colorless liquid is engineered for consistent performance in demanding laboratory and industrial solvent applications.

Grade Significance: Technical grade indicates that this product is manufactured to meet consistent industrial standards suitable for general laboratory and manufacturing processes where high-purity, standardized chemical properties are required.

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 serves as a critical mobile phase component in reversed-phase high-performance liquid chromatography for the accurate separation of organic compounds.
2. **Spectroscopy** — Due to its low UV cutoff wavelength, this mixture acts as a reliable baseline solvent for UV-Vis spectroscopy analysis.
3. **Pharmaceutical Manufacturing** — It is frequently utilized in liquid-liquid extraction processes to effectively isolate and purify complex pharmaceutical intermediates.
4. **Laboratory Maintenance** — The product's effective solvent properties make it an ideal choice for the thorough cleaning of laboratory glassware and precision equipment.

STORAGE & HANDLING

Due to its flash point of 11°C, this solution is classified as a highly flammable liquid that requires storage in a cool, well-ventilated, and fire-resistant area. Proper containment is essential to prevent the accumulation of vapors and to mitigate the significant health risks associated with its toxic nature.

- 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 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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