

PRODUCT IDENTIFICATION



Product Name: Methyl Ethyl Ketone (MEK) ACS Grade

CAS Number: 78-93-3

Molecular Formula: C₄H₈O

Molecular Weight: 72.11 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: Butanone, MEK

PRODUCT OVERVIEW

Methyl Ethyl Ketone (MEK), ACS Grade, from Alliance Chemical is a high-purity solvent with an assay of 99.8%. This volatile, clear liquid is commonly used as a mobile phase in HPLC and as a solvent in coatings. Its solvency and controlled purity make it suitable for demanding applications.

Grade Significance: ACS Grade MEK meets the stringent purity standards set by the American Chemical Society, ensuring its suitability for laboratory and analytical applications where accuracy and reproducibility are critical. This high purity minimizes interference from impurities, leading to more reliable results.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.8	99.5	—	GC-FID
Color (APHA)	APHA	5	—	10	ASTM D1209
Residue After Ignition	%	0.0005	—	0.0020	Gravimetric
Solubility In Water	—	Passes Test	—	—	ACS Reagent Chemicals
Water Content	%	0.05	—	0.2	Karl Fischer Titration
Heavy Metals (as Pb)	ppm	0.1	—	1	ICP-MS
Iron (Fe)	ppm	0.05	—	0.2	ICP-MS
Chloride (Cl ⁻)	ppm	0.1	—	1	Ion Chromatography
Sulfate (SO ₄ ²⁻)	ppm	0.2	—	1	Ion Chromatography
Substances Reducing Kmn04	—	Passes Test	—	—	ACS Reagent Chemicals
Acidity As Acetic Acid	%	0.0010	—	0.0020	Titration
Alkalinity	—	Passes Test	—	—	ACS Reagent Chemicals

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Volatile clear liquid, colorless, mobile	Odor	Sweet, acetone-like odor
Form	Liquid	Boiling Point	80°C (175°F)
Melting / Freezing Point	-86°C (-123°F)	Flash Point	-4°C (25°F)
Specific Gravity	0.805	Solubility	High water miscibility, excellent organic solvent
Molecular Formula	C ₄ H ₈ O	Molecular Weight	72.11 g/mol
Vapor Pressure (20°C)	150 mmHg	Viscosity (25°C)	0.43 cP
Refractive Index (20°C)	1.378	Density (25°C)	0.805 g/mL
Partition Coefficient (log_{0.3} P)		Decomposition Temp.	Not applicable

APPLICATIONS

- Pharmaceutical** — MEK serves as an extraction solvent in the pharmaceutical industry. Its solvency properties allow for the efficient separation and purification of various pharmaceutical compounds, ensuring high yields and purity of the final product.
- Coatings and Adhesives** — In the coatings industry, MEK is used as a solvent for paints, varnishes, and coatings. It provides excellent solvency for resins and polymers, contributing to the desired viscosity, flow, and drying characteristics of the final coating.
- Adhesives and Sealants** — MEK functions as a thinner for adhesives and sealants. Its use improves the application properties of these products by reducing their viscosity and enhancing their spreadability, resulting in better bonding and sealing performance.
- Laboratory Analysis** — As a mobile phase component in reversed-phase high-performance liquid chromatography (HPLC), MEK aids in the separation of organic compounds. Its controlled purity and miscibility with other solvents make it a reliable choice for analytical separations.
- Chemical Synthesis** — MEK can be used as a reaction solvent in chemical synthesis. Its ability to dissolve a range of organic compounds coupled with its relatively low boiling point makes it useful in a variety of organic transformations.
- Electronics** — MEK is used as a cleaning solvent for circuit boards and electronic components. It effectively removes flux residues and contaminants, ensuring reliable performance of electronic devices.

STORAGE & HANDLING

MEK is a highly flammable liquid, so it must be stored in a cool, dry, well-ventilated area away from heat, sparks, and open flames. Proper storage minimizes the risk of fire and explosion, maintaining workplace safety and preventing degradation of the product's quality.

- Store in a cool, well-ventilated area away from heat sources and open flames.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and acids.
- Ensure proper PPE, including gloves and goggles, are worn when handling.
- Keep container tightly closed when not in use to minimize evaporation.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 55 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H225: Highly Flammable liquid and vapor [Danger Flammable liquids]
- H319: Causes serious eye irritation [Warning Serious eye damage/eye irritation]
- H336: May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]

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

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