

PRODUCT IDENTIFICATION



Product Name: Methyl Isobutyl Ketone (MIBK) ACS Grade

CAS Number: 108-10-1

Molecular Formula: C₆H₁₂O

Molecular Weight: 100.16 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: 4-Methyl-2-pentanone, MIBK

PRODUCT OVERVIEW

Methyl Isobutyl Ketone (MIBK) ACS Grade is a high-purity, clear, and volatile solvent featuring a 99.9% assay rating and extremely low impurity levels. This reagent-grade chemical is essential for applications requiring precise analytical results, such as advanced chromatography and pharmaceutical synthesis.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring it is suitable for sensitive laboratory analysis and high-stakes research.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Fid	%	99.9	98.5	—	GC-FID
Color (APHA)	APHA	2	—	15	ASTM D1209
Specific Gravity (20°C)	g/mL	0.802	0.8	0.803	Hydrometer @ 20°C
Non-Volatile Residue	%	≤ 0.005 %	—	—	Residue on Ignition
Residue On Evaporation	ppm	6	—	20	Evaporation
Water Karl Fischer	%	0.02	—	0.1	ASTM E203 / ISO 6296
Acidity As Acetic	ppm	9	—	30	Titration
Distillation Range	°C	116.0	114.0	117.0	ASTM D1078

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, volatile liquid with sharp ketone odor	Odor	Sweet, ketone-like odor
Form	Liquid	Boiling Point	243 to 244 °F at 760 mmHg (NTP, 1992)
Melting / Freezing Point	-120.5 °F (NTP, 1992)	Flash Point	73 °F (NTP, 1992)
Specific Gravity	0.798	Solubility	Partial water solubility, excellent organic solvent
Molecular Formula	C ₆ H ₁₂ O	Molecular Weight	100.16 g/mol
Vapor Pressure (20°C)	30 mmHg	Viscosity (25°C)	0.54 cP
Refractive Index (20°C)	1.426	Density (25°C)	0.805 g/mL
Partition Coefficient (log P)	0.3	Decomposition Temp.	Not expected to decompose below 180°C under normal conditions

APPLICATIONS

1. **Analytical Chemistry** — Functions as a reliable mobile phase component in reversed-phase high-performance liquid chromatography for the accurate separation of organic compounds.
2. **Pharmaceutical Manufacturing** — Utilized as a high-purity solvent for the extraction and purification of active pharmaceutical ingredients.
3. **Coatings and Paints** — Acts as an effective solvent in the formulation of high-performance paints and coatings due to its excellent solvency and evaporation profile.
4. **Chemical Synthesis** — Serves as a versatile intermediate in the synthesis of complex chemical compounds and specialty materials.

STORAGE & HANDLING

Due to its flash point of 73 °F, MIBK must be stored in a cool, well-ventilated, explosion-proof area away from ignition sources to mitigate fire risks. Proper sealing is critical to prevent evaporation and minimize the potential for inhalation exposure.

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

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 vapour
- H319: Causes serious eye irritation
- H332: Harmful if inhaled
- H335: May cause respiratory irritation
- H351: Suspected of causing cancer
- EUH066: Repeated exposure may cause skin dryness or cracking

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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