

PRODUCT IDENTIFICATION



Product Name: Methyl Isobutyl Ketone (MIBK) ACS Grade

CAS Number: 108-10-1

Molecular Formula: $C_6H_{12}O$

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 solvent featuring a 99.8% assay and exceptional clarity, meeting rigorous analytical standards. This volatile liquid serves as a critical component in analytical chemistry and industrial synthesis, valued for its superior solvency and low residue profile.

Grade Significance: ACS Grade signifies that this product meets the high-purity specifications established by the American Chemical Society, ensuring it is suitable for sensitive laboratory applications and analytical testing.

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 @ 25°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 high-purity mobile phase component in reversed-phase high-performance liquid chromatography (HPLC) to facilitate precise compound separation.
2. **Paints and Coatings** — Utilized as a high-performance solvent in industrial paint formulations due to its excellent solvency properties and evaporation rate.
3. **Pharmaceuticals** — Employed in the extraction and purification processes of active pharmaceutical ingredients where high chemical consistency is required.
4. **Chemical Manufacturing** — Serves as a versatile intermediate in the synthesis of complex chemical compounds and specialty derivatives.

STORAGE & HANDLING

Due to its high flammability and low flash point of 14°C, MIBK must be stored in a cool, well-ventilated area away from heat, sparks, and open flames. Proper containment prevents the accumulation of hazardous vapors and ensures the integrity of the reagent by minimizing potential contamination.

- 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 vapor [Danger Flammable liquids]
- H319: Causes serious eye irritation [Warning Serious eye damage/eye irritation]
- H332: Harmful if inhaled [Warning Acute toxicity, inhalation]
- H336: May cause drowsiness or dizziness [Warning Specific target organ toxicity, single exposure; Narcotic effects]
- H351: Suspected of causing cancer [Warning Carcinogenicity]

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

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.