

PRODUCT IDENTIFICATION



Product Name: Cyclohexanone ACS Grade
CAS Number: 108-94-1
Molecular Formula: C₆H₁₀O
Molecular Weight: 98.14 g/mol
Grade: ACS Grade
Purity / Concentration: Not Available
Synonyms: 2-Cyclohexanone, Cyclohexanone 99%

PRODUCT OVERVIEW

Cyclohexanone ACS Grade from Alliance Chemical is a high-purity solvent, boasting an assay of 99.9% and a color rating of 5 APHA. This colorless liquid is primarily used as a mobile phase in HPLC and as a solvent in various industrial applications. Its controlled specifications ensure reliable and consistent performance in demanding applications.

Grade Significance: ACS Grade signifies that this Cyclohexanone meets the stringent purity standards set by the American Chemical Society. This ensures that the chemical is suitable for laboratory use and analytical applications where high purity and minimal interference from impurities are critical.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.9	99.8	—	GC-FID
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	0.946	0.944	0.947	USP <841>
Residue After Ignition	%	0.0010	—	0.0050	ACS
Water Content	%	0.02	—	0.1	Karl Fischer Titration
Heavy Metals (as Pb)	ppm	0.1	—	1	ICP-OES
Iron (Fe)	ppm	0.05	—	0.2	ICP-OES
Chloride (Cl ⁻)	ppm	0.1	—	5	Ion Chromatography
Substances Darkened By H ₂ SO ₄	—	Pass	—	—	ACS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Colorless liquid	Odor	Sweet, pungent odor
Form	Liquid	Boiling Point	155°C (311°F)
Melting / Freezing Point	-44°C (-47°F)	Flash Point	44°C (111°F)
Specific Gravity	0.948	Solubility	Soluble in water, alcohols, ethers, and most organic solvents
Molecular Formula	C ₆ H ₁₀ O	Molecular Weight	98.14 g/mol
Vapor Pressure (20°C)	4.4 mmHg	Viscosity (25°C)	0.89 cP
Refractive Index (20°C)	1.428	Density (25°C)	0.948 g/mL

APPLICATIONS

1. **Pharmaceutical** — Cyclohexanone is used in the extraction of active pharmaceutical ingredients (APIs) from plant materials. Its solvent properties allow for efficient separation and purification of desired compounds.
2. **Chemical Synthesis** — As an intermediate, Cyclohexanone is crucial in the production of nylon and other synthetic fibers. Its controlled purity ensures optimal reaction yields and product quality.
3. **Paints and Coatings** — Cyclohexanone serves as a solvent in paints, coatings, and adhesives, dissolving a wide range of substances. Its properties contribute to the desired viscosity and application characteristics of these products.
4. **High-Performance Liquid Chromatography (HPLC)** — Cyclohexanone is commonly employed as a mobile phase component in reversed-phase HPLC for separating organic compounds. Its consistent purity is essential for accurate and reproducible chromatographic results.
5. **General Solvent** — Due to its versatile solvency, Cyclohexanone is utilized in various applications requiring a solvent capable of dissolving a range of organic materials, such as resins and polymers.
6. **Electronics** — Cyclohexanone can be used as a cleaning agent and solvent in the manufacturing of electronic components. Its high purity helps to prevent contamination and ensure the proper functioning of sensitive devices.

STORAGE & HANDLING

Cyclohexanone is a flammable liquid and vapor, requiring storage in a cool, dry, and well-ventilated area away from heat, sparks, and open flames. Proper storage minimizes the risk of fire and maintains the chemical's stability, preventing degradation or the formation of hazardous byproducts.

- Store in a cool, well-ventilated area away from heat sources.
- Use containers made of HDPE or glass to avoid chemical reactions.
- Keep away from strong oxidizers and acids to prevent hazardous reactions.
- Ensure proper PPE including gloves and goggles are worn when handling.
- Avoid exposure to light and moisture to maintain product integrity.

AVAILABLE PACKAGING

- 1 Liter
- 5 Gallon
- 55 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Warning**



Hazard Statements:

- H226: Flammable liquid and vapor [Warning Flammable liquids]
- H332: Harmful if inhaled [Warning Acute toxicity, inhalation]

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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