

### PRODUCT IDENTIFICATION



**Product Name:** Methanol ACS Reagent Grade

**CAS Number:** 67-56-1

**Molecular Formula:** CH<sub>4</sub>O

**Molecular Weight:** 32.042 g/mol

**Grade:** Reagent Grade

**Purity / Concentration:** 99.8%

**Synonyms:** Methyl alcohol, Carbinol

### PRODUCT OVERVIEW

Alliance Chemical offers high-purity Methanol ACS Reagent Grade, featuring a 99.97% assay and exceptionally low impurity levels such as 0.01% water content. This volatile, clear liquid serves as a critical solvent and reactant for demanding laboratory and industrial applications where precision is paramount.

**Grade Significance:** Reagent Grade indicates that this product meets the strict purity standards set by the American Chemical Society, ensuring consistent, reproducible results in sensitive analytical and research applications.

### CERTIFICATE OF ANALYSIS — TYPICAL VALUES

| PARAMETER                 | UNIT | TYPICAL | MIN   | MAX    | TEST METHOD       |
|---------------------------|------|---------|-------|--------|-------------------|
| Assay Gc                  | %    | 99.97   | 99.8  | 100.5  | GC                |
| Color (APHA)              | APHA | 5       | —     | 10     | APHA              |
| Specific Gravity (20°C)   | g/mL | 0.792   | 0.791 | 0.793  | Hydrometer @ 20°C |
| Residue On Evaporation    | ppm  | 3       | —     | 10     | Evaporation       |
| Water Karl Fischer        | %    | 0.01    | —     | 0.1    | Karl Fischer      |
| Chlorides As Cl           | ppm  | 0.5     | 0     | 25     | ICP               |
| Acetone Aldehydes         | %    | 0.0009  | —     | 0.0030 | Per specification |
| Acidity As Acetic         | ppm  | 6       | —     | 20     | Titration         |
| Aldehydes As Acetaldehyde | ppm  | 0.0020  | 0     | 10     | Spectrophotometry |
| Alkalinity                | —    | 0.0001  | —     | 0.0003 | Per specification |

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

## PHYSICAL & CHEMICAL PROPERTIES

|                                 |                                                |                                |                                  |
|---------------------------------|------------------------------------------------|--------------------------------|----------------------------------|
| <b>Appearance</b>               | Volatile clear liquid, transparent             | <b>Odor</b>                    | Slightly sweet odor              |
| <b>Form</b>                     | Liquid                                         | <b>Boiling Point</b>           | 148.3 °F at 760 mmHg (NTP, 1992) |
| <b>Melting / Freezing Point</b> | -144 °F (NTP, 1992)                            | <b>Flash Point</b>             | 52 °F (NTP, 1992)                |
| <b>Solubility</b>               | Fully miscible with water and organic solvents | <b>Molecular Formula</b>       | CH <sub>4</sub> O                |
| <b>Molecular Weight</b>         | 32.042 g/mol                                   | <b>Vapor Pressure (20°C)</b>   | 97 mmHg                          |
| <b>Viscosity (25°C)</b>         | 0.54 cP                                        | <b>Refractive Index (20°C)</b> | 1.3288                           |
| <b>Density (25°C)</b>           | 0.791 g/mL                                     |                                |                                  |

## APPLICATIONS

1. **Analytical Chemistry** — Serves as a reliable mobile phase component in reversed-phase chromatography for the accurate separation of complex organic compounds.
2. **Spectroscopy** — Utilized as a baseline solvent in UV-Vis spectroscopy, benefiting from its low UV cutoff wavelength to ensure clear analytical readings.
3. **Chemical Synthesis** — Acts as a high-purity solvent and essential reactant in various organic synthesis processes requiring strict chemical consistency.
4. **Automotive Engineering** — Applied as a specialized fuel additive to enhance combustion efficiency and performance in internal combustion engines.

## STORAGE & HANDLING

Methanol is a highly flammable liquid with a low flash point of 52 °F, necessitating storage in a cool, well-ventilated area away from ignition sources. Proper containment prevents the accumulation of toxic vapors and minimizes the risk of fire or hazardous exposure to personnel.

- Store in a cool, well-ventilated area away from heat sources.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizers and acids.
- Ensure proper PPE including gloves and goggles are worn during handling.
- Keep away from open flames and sources of ignition.

## 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 vapour
- H301: Toxic if swallowed
- H311: Toxic in contact with skin
- H331: Toxic if inhaled
- H370: Causes damage to organs

**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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