

PRODUCT IDENTIFICATION

**Product Name:** Kerosene - K1 Clean Burning Fuel**CAS Number:** 8008-20-6**Molecular Formula:** $C_{10}H_{22}$ to $C_{16}H_{34}$ **Molecular Weight:** 142.28 g/mol**Grade:** Technical Grade**Purity / Concentration:** Not Available**Synonyms:** Kerosene Oil, Coal Oil

PRODUCT OVERVIEW

Alliance Chemical offers high-purity K1 Kerosene, a technical-grade fuel characterized by its low impurity profile, including a 99.6% assay and a clear 2 APHA color rating. This versatile liquid is primarily utilized as a clean-burning heating fuel, though its stability and performance make it suitable for a range of industrial and aviation applications.

Grade Significance: Technical grade indicates that this product is manufactured to meet consistent industrial performance standards, ensuring reliability for fuel and solvent applications where high purity is required.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.6	99	100.0	Distillation and mass balance with GC/summary (Titration not applicable); gravimetric analysis after distillation
Color (APHA)	APHA	2	—	5	APHA/Hazen visual comparison
Specific Gravity (20°C)	g/mL	0.81	0.79	0.82	Hydrometer or pycnometer at 20°C; ASTM D4052
Residue After Ignition	%	0.0050	—	0.01	Gravimetric residue after ignition following ASTM D482
Water Content	%	0.02	—	0.05	Karl Fischer titration
Aluminum (Al)	ppm	0.2	—	1	ICP-OES
Arsenic (As)	ppm	0.02	—	0.1	ICP-MS (ultra-trace metals)
Calcium (Ca)	ppm	1	—	5	IC or ICP-OES
Chromium (Cr)	ppm	0.1	—	0.5	ICP-OES
Cobalt (Co)	ppm	0.02	—	0.1	ICP-OES
Copper (Cu)	ppm	0.05	—	0.2	ICP-OES
Heavy Metals (as Pb)	ppm	0.05	—	0.5	ICP-MS
Iron (Fe)	ppm	0.05	—	0.5	ICP-OES
Lead (Pb)	ppm	0.05	—	0.2	ICP-OES
Magnesium (Mg)	ppm	1	—	5	ICP-OES
Manganese (Mn)	ppm	0.05	—	0.2	ICP-OES
Nickel (Ni)	ppm	0.05	—	0.2	ICP-OES
Potassium (K)	ppm	0.5	—	3	ICP-OES
Sodium (Na)	ppm	0.5	—	3	IC or ICP-OES
Zinc (Zn)	ppm	0.1	—	0.5	ICP-OES
Ammonium (NH ₄ ⁺)	ppm	1	—	5	Ion Chromatography (IC)
Chloride (Cl ⁻)	ppm	0.5	—	2	Ion Chromatography (IC) or IC-ICP-MS after sample digestion
Nitrate (NO ₃ ⁻)	ppm	1	—	5	Ion Chromatography (IC)
Phosphate (PO ₄ ³⁻)	ppm	1	—	5	Ion Chromatography (IC)
Sulfate (SO ₄ ²⁻)	ppm	2	—	10	Ion Chromatography (IC)

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Light amber liquid, transparent, low viscosity	Odor	Characteristic petroleum odor
Form	Liquid	Boiling Point	175°C (347°F)
Melting / Freezing Point	-40°C (-40°F)	Flash Point	48 °C (118.4 °F), Tag closed cup (ASTM D56)
Solubility	Low water solubility, dissolves in petroleum	Molecular Formula	C ₁₀ H ₂₂ to C ₁₆ H ₃₄
Molecular Weight	142.28 g/mol	Vapor Pressure (20°C)	0.5 mmHg
Viscosity (25°C)	1.5 cP	Refractive Index (20°C)	1.440
Density (25°C)	0.800 g/mL		

APPLICATIONS

- Residential Heating** — Used as a primary fuel source for portable and stationary residential heating systems, providing reliable and consistent warmth.
- Aviation** — Serves as a specialized fuel component for jet engines, meeting the rigorous performance requirements necessary for flight operations.
- Industrial Cleaning** — Utilized as a high-performance solvent in various industrial cleaning processes, effectively removing grease and residue from mechanical components.
- Illumination** — Widely used as a traditional and reliable fuel for oil lamps, providing steady illumination in both decorative and emergency lighting scenarios.

STORAGE & HANDLING

Due to its flash point of 48°C, K1 Kerosene is classified as a flammable liquid that requires storage in a cool, well-ventilated area away from heat sources or open flames. Proper containment prevents the accumulation of flammable vapors, which is essential for maintaining a safe working environment and preventing accidental ignition.

- Store in a cool, well-ventilated area away from heat sources and open flames.
- Use containers made of HDPE or stainless steel to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and acids.
- Ensure proper PPE, including gloves and goggles, are worn during handling.
- Regularly inspect storage containers for leaks or signs of degradation.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Warning**



Hazard Statements:

- H226: Flammable liquid and vapor

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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