

PRODUCT IDENTIFICATION



Product Name: 100% Pure Castor Oil ACS Grade
CAS Number: 8001-79-4
Molecular Formula: $C_{18}H_{34}O_3$
Molecular Weight: 298.46 g/mol
Grade: ACS Grade
Purity / Concentration: 100%
Synonyms: Ricinus Communis Oil, Castor Bean Oil

PRODUCT OVERVIEW

Alliance Chemical offers 100% pure ACS Grade Castor Oil, a high-viscosity, pale yellow liquid derived from *Ricinus communis*. With a strictly controlled water content of 0.03% and heavy metal levels at 1 ppm, this premium grade ensures consistent performance as a reliable lubricant, pharmaceutical carrier, and chemical feedstock.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring high reliability for analytical and sensitive industrial applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Color (APHA)	APHA	15	—	20	ASTM D1209
Specific Gravity (25°C)	g/mL	0.957	0.956	0.961	USP <841>
Residue After Ignition	%	0.0050	—	0.02	USP <281>
Water Content	%	0.03	—	0.3	ASTM D1364
Heavy Metals (as Pb)	ppm	1	—	10	USP <231>
Acid Value	mg KOH/g	0.3	—	2	AOCS Cd 3d-63
Iodine Value	g I ₂ /100g	84	82	90	AOCS Cd 1-25
Saponification Value	mg KOH/g	179.0	176.0	187.0	AOCS Cd 3-25

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Pale yellow viscous	Odor	Mild, characteristic odor
Form	Liquid	Boiling Point	313°C (595.4°F)
Melting / Freezing Point	-10°C (14°F)	Flash Point	254°C (489.2°F)
Specific Gravity	0.961	Solubility	Insoluble in water
Molecular Formula	$C_{18}H_{34}O_3$	Molecular Weight	298.46 g/mol
Vapor Pressure (20°C)	0.01 mmHg	Viscosity (25°C)	800-1000 cP
Refractive Index (20°C)	1.460	Density (25°C)	0.961 g/mL

APPLICATIONS

1. **Lubricants** — Utilized as a high-performance lubricant for machinery due to its exceptional viscosity and thermal stability.
2. **Personal Care** — Widely used in skincare and cosmetic formulations for its superior emollient and moisturizing properties.
3. **Pharmaceuticals** — Functions as a stable carrier or excipient for active ingredients in specialized pharmaceutical formulations.
4. **Renewable Energy** — Serves as an efficient feedstock for biodiesel production, valued for its high oil content and chemical consistency.

STORAGE & HANDLING

To maintain the chemical integrity and prevent oxidation, store this product in a cool, dry, well-ventilated area away from direct sunlight and strong oxidizing agents. Proper storage prevents degradation of the oil's fatty acid profile, ensuring the product remains effective for its intended industrial or laboratory use.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent contamination.
- Avoid contact with strong oxidizing agents.
- Maintain temperature below 25°C to ensure stability.
- Use appropriate personal protective equipment (PPE) when handling.

AVAILABLE PACKAGING

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

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Not Classified

No GHS pictograms assigned.

Hazard Statements:

- Not Classified: Not classified as hazardous under GHS based on available data.

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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