

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/Hazen)	APHA	2	—	3	Spectrophotometry
Color Lovibond 5	Y/R	8.25	—	20	AOCS Cc 13e-92
Refractive Index 20C	—	1.475	1.473	1.477	Refractometry
Specific Gravity (25°C)	g/mL	0.96	0.958	0.969	IS: 548
Viscosity 25C	cP	7	6.3	8.9	Brookfield
Moisture	%	0.15	0	0.25	Karl Fischer
Non-Volatile Residue	%	0.36	0	0.7	Gravimetric
Arsenic As	ppm	0.3	—	1	ICP-MS
Lead Pb	ppm	0.1	—	0.5	ICP-MS
Acid Value	mg KOH/g	1.19	0	2	Titration
Free Acid	%	0.6	0	1	Titration
Hydroxyl Value	mg KOH/g	164.6	160.0	168.0	Titration
Insolubles	%	0.01	0	0.02	Filtration
Iodine Value	g I ₂ /100g	85.16	82	90	Wijs
Saponification Value	mg KOH/g	180.5	176.0	185.0	Titration

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

- Lubricants** — Utilized as a high-performance lubricant for machinery due to its exceptional viscosity and thermal stability.
- Personal Care** — Widely used in skincare and cosmetic formulations for its superior emollient and moisturizing properties.
- Pharmaceuticals** — Functions as a stable carrier or excipient for active ingredients in specialized pharmaceutical formulations.
- 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: WARNING

No GHS pictograms assigned.

Hazard Statements:

- H319 - Causes serious eye irritation
- H315 - Causes skin irritation

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.