

PRODUCT IDENTIFICATION



Product Name: 100% USP Grade Pure Castor Oil

CAS Number: 8001-79-4

Molecular Formula: $C_{18}H_{34}O_2$

Molecular Weight: 282.47 g/mol

Grade: USP Grade

Purity / Concentration: 100%

Synonyms: Ricinus Communis Oil, Castor Bean Oil

PRODUCT OVERVIEW

Alliance Chemical offers 100% USP Grade Pure Castor Oil, a high-quality, pale yellow viscous liquid derived from Ricinus communis. With a hydroxyl value of 162.8 mg KOH/g and extremely low impurity levels, this versatile oil is an essential ingredient for pharmaceutical, cosmetic, and industrial formulations.

Grade Significance: USP Grade signifies that this castor oil meets the rigorous purity and quality standards set by the United States Pharmacopeia, ensuring it is safe and reliable for sensitive medicinal and personal care applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Color (APHA/Hazen)	APHA	1	—	3	Spectrophotometry
Color Lovibond 5	Y/R	4	—	20	AOCS Cc 13e-92
Refractive Index 20C	—	1.4786	1.477	1.481	Refractometry
Specific Gravity (25°C)	g/mL	0.961	0.959	0.963	IS: 548
Viscosity 25C	cP	7.4	6.3	8.9	Brookfield
Moisture	%	0.13	0	0.25	Karl Fischer
Non-Volatile Residue	%	0.42	0	0.7	Gravimetric
Arsenic As	ppm	0.4	—	1.5	ICP-MS
Lead Pb	ppm	0.18	—	0.5	ICP-MS
Acid Value	mg KOH/g	1.48	0	2	Titration
Free Acid	%	0.78	0	1	Titration
Hydroxyl Value	mg KOH/g	162.8	160.0	168.0	USP 44 <401>
Insolubles	%	0.01	0	0.02	Filtration
Iodine Value	g I2/100g	85.5	82	90	Wijs
Peroxide Value	meq/kg	1.6	—	5	USP 44 <401>
Ricinoleic Acid	%	86.4	85	92	GC
Saponification Value	mg KOH/g	180.6	176.0	185.0	Titration

Values based on 2 batches tested. ND = Not Detected.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Pale yellow viscous liquid, translucent smooth	Odor	Mild, characteristic odor
Form	Liquid	Boiling Point	313°C (595.4°F)
Melting / Freezing Point	-18°C (-0.4°F)	Flash Point	246°C (474.8°F)
Solubility	Organic solvent soluble, water insoluble	Molecular Formula	C ₁₈ H ₃₄ O ₂
Molecular Weight	282.47 g/mol	Vapor Pressure (20°C)	0.01 mmHg
Viscosity (25°C)	900-1000 cP	Refractive Index (20°C)	1.463
Density (25°C)	0.961 g/mL	Decomposition Temp.	Thermally stable under recommended storage

APPLICATIONS

- Pharmaceuticals** — Utilized as a high-purity natural laxative, this oil serves as a key active ingredient in medicinal formulations requiring strict USP compliance.
- Personal Care** — Functions as a premium moisturizing agent in skin care products, providing excellent emollient properties for lotions, balms, and soaps.
- Manufacturing** — Acts as an effective plasticizer in the production of flexible plastics, improving the durability and workability of polymer materials.
- Industrial Lubrication** — Used as a bio-based lubricant in various mechanical applications where a high flash point of 246°C provides enhanced thermal stability.

STORAGE & HANDLING

To maintain product integrity, store this oil in a cool, dry, well-ventilated area away from direct sunlight and strong oxidizing agents. Proper storage prevents oxidative rancidity and ensures the oil retains its physical and chemical properties for long-term use.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to prevent contamination.
- Avoid exposure to high temperatures to maintain product integrity.
- Ensure proper ventilation when handling to avoid inhalation of vapors.
- Wear appropriate personal protective equipment (PPE) such as gloves and goggles.

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:

- 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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