

PRODUCT IDENTIFICATION



Product Name: 100% Pure Castor Oil Technical Grade

CAS Number: 8001-79-4

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

Molecular Weight: 282.47 g/mol

Grade: Technical Grade

Purity / Concentration: 100%

Synonyms: Ricinus Communis Oil, Castor Seed Oil

PRODUCT OVERVIEW

Alliance Chemical offers 100% pure Technical Grade Castor Oil, a highly viscous, pale yellow liquid derived from Ricinus communis seeds. With a consistent hydroxyl value of 162.8 mg KOH/g and low moisture content of 0.13%, this product is an ideal base for industrial and personal care formulations.

Grade Significance: Technical Grade indicates that this castor oil is produced for industrial and manufacturing utility, offering a reliable, high-purity profile for non-food 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)	1.465
Density (25°C)	0.961 g/mL		

APPLICATIONS

- 1. Personal Care** — Functions as a high-performance moisturizer and emollient in skin and hair care products to improve texture and hydration.
- 2. Industrial Lubrication** — Utilized as a natural lubricant for machinery and equipment thanks to its high viscosity and stable chemical profile.
- 3. Plastics Manufacturing** — Acts as an effective plasticizer to increase the flexibility and durability of plastic polymers.
- 4. Pharmaceuticals** — Serves as a reliable carrier for drug formulations and is commonly used in the production of soft-gel capsules.

STORAGE & HANDLING

To maintain product integrity, store in a cool, dry, and well-ventilated area away from direct sunlight and strong oxidizing agents. Proper storage prevents degradation and ensures that the low moisture and acid levels remain within specification for your applications.

- Store in a cool, dry place away from direct sunlight.
- Use containers made of HDPE or glass to avoid chemical interaction.
- Keep away from strong oxidizing agents and acids.
- 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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