

TECHNICAL DATA SHEET

100% Pure Castor Oil Technical Grade

Technical · 100%

CAS NUMBER	ALLIANCE CODE	GENERATED
8001-79-4	100-pure-castor-oil	2026-09-01
REVISION	REVIEWED	
1.1	2026-06-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
100% Pure Castor Oil Technical Grade	100-pure-castor-oil
GRADE	CONCENTRATION
Technical	100%
CAS NUMBER	FORMULA
8001-79-4 Adjudicated	C18H34O3 Alliance SDS
MOLECULAR WEIGHT	PRODUCT TYPE
298.46 g/mol Alliance SDS	solution

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Acetyl Value	140 MIN	146	Titration (mg KOH/g)	Supplier specification
Acid Value	Max 2.00 mg KOH/g	0.80	AOCS Cd 3d-63	Supplier specification
Free Fatty Acid (as Oleic)	1.0 max %	0.40 %	AOCS Ca 5a-40	Supplier specification

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Free Fatty Acid (FFA)	Max 1.00 %	0.40 %	—	Supplier specification
Hydroxyl Value	Min 160 mg KOH/g	164	AOCS Cd 13-60	Supplier specification
Insoluble Impurities	0.02 maximum %	0.005 %	AOCS Ca 3-46	Supplier specification
Iodine Value	82 – 90 g I ₂ /100g	86	AOCS Cd 1-25	Supplier specification
Optical Rotation	+3.5 – + 6.0 Deg	Passes test	Polarimetry	Supplier specification
Ricinoleic Acid	85 min %	89.0 %	GC Analysis	Supplier specification
Saponification Value	177 – 185 mg KOH/g	181	AOCS Cd 3-25	Supplier specification
Solubility in alcohol @ 20 °C	Complete without turbidity in two volumes of specially denatured alcohol formula 3A (95%).	Passes test	ASTM D 960	Supplier specification
Unsaponifiable Matter	1.00 % MAX	0.45 %	Solvent extraction, gravimetric	Supplier specification
Moisture & Volatile Matter	0.25 (2,500 ppm) max %	0.10 %	AOCS Ca 2c-25	Supplier specification

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE Technical	100%	—	current
ACS Grade	100%	—	100-pure-castor-oil-acs-grade
USP Grade	100%	—	100-usp-pure-castor-oil

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Clear and free from suspended matter	Supplier specification
Form	Liquid	Published reference
Color	20.OY / 2.OR max.	Supplier specification
Density	0.954 – 0.960	Supplier specification
Boiling Point	313	Published reference
Melting Point	–18	Published reference
Flash Point	246	Published reference
Solubility (water)	Organic solvent soluble, water insoluble	Published reference
Refractive Index (nD 20)	1.477 – 1.481	Supplier specification
Viscosity	6.3 – 8.9 Stokes	Supplier specification

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	CONDITIONS	SOURCE
HDPE	Compatible	—	novaind.in
Steel	Compatible	—	novaind.in
Mild steel (MS drums)	Compatible	—	biapur.ru

Compatibility is drawn from published manufacturer and supplier documentation for this product; each rating is sourced. Confirm against your specific duty cycle before equipment selection.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

Not regulated [Adjudicated](#)

PACKING GROUP

Not regulated [Adjudicated](#)

HAZARD CLASS

Not regulated [Adjudicated](#)

PROPER SHIPPING NAME

Not regulated [Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Not regulated [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

— [no canonical](#)

P-CODES (PRECAUTIONARY STATEMENTS)

— [no canonical](#)

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— [no canonical](#)

ACGIH TLV

— [no canonical](#)

NIOSH REL

— [no canonical](#)

NIOSH IDLH

— [no canonical](#)

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

APPLICATIONS

Industrial raw material for manufacture of castor oil derivatives (HCO, 12-HSA, ricinoleic acid) and for leather, textile, resin, paint and cosmetic manufacture

biapur.ru

Base stock for high-performance industrial greases and lubricating fluids [novaind.in](#)

Chemical precursor for derivatives such as sebacic acid and 12-hydroxystearic acid [novaind.in](#)

Used in polyurethane coating formulations [novaind.in](#)

Raw material for safety product manufacturing. [novaind.in](#)

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

Store in a cool, dry place away from direct sunlight and moisture. Keep containers tightly closed when not in use.

[novaind.in](#)

INCOMPATIBILITIES

moisture [novaind.in](#)

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

Class-level guidance — not product-specific; the SDS controls.

SHELF LIFE

12 months [acme-hardesty.com](#)

From date of manufacture, kept at ambient temperatures, unopened

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

Not regulated for transport.

Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
55

REVISION HISTORY

Last reviewed 2026-06-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-06-17	Canonical data re-verified: 4 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). - casNumber · canonical adjudication / reground (coa.data_provenance) - countryOfOrigin · canonical adjudication / reground (coa.data_provenance) - dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) - hsCode · canonical adjudication / reground (coa.data_provenance)	canonical_change
1.0	2026-05-20	Initial URL-first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.