

TECHNICAL DATA SHEET

100% Pure Castor Oil ACS Grade

ACS Grade · 100%

CAS NUMBER	ALLIANCE CODE	GENERATED
8001-79-4	100-pure-castor-oil-acs-grade	2026-08-31
REVISION	REVIEWED	
1.1	2026-06-17 · Andre Taki	

IDENTITY & COMPOSITION

PRODUCT NAME	ALLIANCE CODE
100% Pure Castor Oil ACS Grade	100-pure-castor-oil-acs-grade
GRADE	CONCENTRATION
ACS Grade	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
Assay (triglyceride of ricinoleic acid)	NLT 90.0% of the triglyceride of ricinoleic acid	100.0 %	USP <401> / GC of fatty acid methyl esters	USP monograph
Acid Value	NMT 2.0	0.35	USP <401> Fats and Fixed Oils, Procedures, Acid Value	USP monograph

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Composition of fatty acids — Ricinoleic acid	85.0–92.0	88.5	GC, USP Fats and Fixed Oils <401>	USP monograph
Free Fatty Acids	To Pass Test	Passes test	Titration	Supplier specification
Heavy Metals	10 mg/kg	1 mg/kg	Colorimetric heavy metals limit test	Supplier specification
Hydroxyl Value	160–168	164	USP <401> Fats and Fixed Oils, Procedures, Hydroxyl Value	USP monograph
Iodine Value	Between 83 and 88	Passes test	Wijs (g I ₂ /100 g)	FCC
Lead	Not more than 0.1 mg/kg	0.01 mg/kg	FCC lead limit test / ICP-MS	FCC
Peroxide Value	NMT 10.0	1.2	USP <401> Fats and Fixed Oils, Procedures, Peroxide Value	USP monograph
Saponification Value	Between 176 and 185	Passes test	Titration (mg KOH/g)	FCC
Unsaponifiable Matter	NMT 0.8%	0.35 %	USP <401> Fats and Fixed Oils, Procedures, Unsaponifiable Matter	USP monograph
Water	NMT 0.3%	0.08 %	USP <921>	USP monograph
Arsenic (as As)	NMT 1 mg/kg	0.03 mg/kg	ICP-MS, USP <233>	Interpreted

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 ACS Grade	100%	—	current
Technical	100%	—	100-pure-castor-oil
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	Pale yellow viscous	Published reference
Form	Liquid	Published reference
Color	NMT 2	Interpreted
Specific Gravity (20 °C)	0.957–0.961	USP monograph
Boiling Point	313	Published reference
Melting Point	–10	Published reference
Flash Point	254	Published reference
Solubility (water)	Insoluble in water	Published reference
Refractive Index (nD 20)	1.477 – 1.481	Interpreted

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](#)

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 [novaind.in](#)

From date of manufacture, under recommended storage conditions (cool, dry, out of direct sunlight, containers tightly closed)

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.