

TECHNICAL DATA SHEET

D-Limonene 94% - Food Grade

USP Grade

CAS NUMBER
5989-27-5

ALLIANCE CODE
d-limonene-usp-grade

GENERATED
2026-07-18

1. IDENTITY & COMPOSITION

PRODUCT NAME
D-Limonene 94% - Food Grade

GRADE
USP Grade

CAS NUMBER
5989-27-5 [PubChem](#)

MOLECULAR WEIGHT
136.23 [PubChem](#)

ALLIANCE CODE
d-limonene-usp-grade

CONCENTRATION
—

FORMULA
C10H16 [PubChem](#)

PRODUCT TYPE
solution

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE USP Grade	—	—	current
Technical Grade	—	—	d-limonene-technical-grade

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

APPEARANCE

D-limonene is a clear colorless mobile liquid with a pleasant lemon-like odor. (NTP, 1992)

[Product record](#)

ODOR

Citrus odor [Product record](#)

BOILING POINT

348 to 349 °F at 760 mmHg (NTP, 1992)

[Product record](#)

FLASH POINT

119 °F (NTP, 1992) [Product record](#)

SOLUBILITY (WATER)

less than 1 mg/mL at 67.1 °F (NTP, 1992)

[Product record](#)

FORM

Liquid [Product record](#)

DENSITY

0.8411 at 68 °F (NTP, 1992) - Less dense than water; will float [Product record](#)

MELTING POINT

-142.4 °F (NTP, 1992) [Product record](#)

VAPOR PRESSURE

1 mmHg at 57 °F ; 5 mmHg at 104.7 °F; 10 mmHg at 128.8 °F (NTP, 1992) [Product record](#)

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

UN2319 **Adjudicated**

PACKING GROUP

III **Adjudicated**

HAZARD CLASS

3 **Adjudicated**

PROPER SHIPPING NAME

Terpene hydrocarbons, N.O.S. **Adjudicated**

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger **Adjudicated**

H-CODES (HAZARD STATEMENTS)

H226, H304, H315, H317, H410 **Adjudicated**

P-CODES (PRECAUTIONARY STATEMENTS)

P210, P261, P264, P273, P280, P301+P310,
P302+P352, P303+P361+P353, P321, P331,
P333+P313 **Adjudicated**

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

— **unknown**

ACGIH TLV

— **unknown**

NIOSH REL

— **unknown**

NIOSH IDLH

— **unknown**

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.

Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for D-Limonene 94% – Food Grade. Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

APPLICATION GUIDANCE

D-Limonene 94% – Food Grade (USP Grade) application guidance is available on request. Contact Alliance Chemical Technical Services for grade-specific use recommendations.

STORAGE & HANDLING

RECOMMENDED STORAGE

Cool, dry, well-ventilated area in original sealed containers. Refer to product SDS for material-specific guidance.

INCOMPATIBILITIES

Consult the SDS for material-specific incompatibilities.

HANDLING PRECAUTIONS

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

SHELF LIFE

24 months from date of manufacture in sealed, original packaging

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)

UN2319, Terpene hydrocarbons, N.O.S., 3, PG III

Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS 77.5	PLACARD Flammable Liquid	PACKING GROUP PG III
---------------------------------------	--	--

REVISION HISTORY

Last reviewed 2026-06-24 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-06-24	Canonical data re-verified: 13 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). • bulkThresholdGallons · canonical adjudication / reground (coa.data_provenance) • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • dotProperShippingName · canonical adjudication / reground (coa.data_provenance) • dotSubsidiaryHazardClass · canonical adjudication / reground (coa.data_provenance) • ghsClassification · canonical adjudication / reground (coa.data_provenance) • hazardClass · canonical adjudication / reground (coa.data_provenance) • hazard_h_codes · canonical adjudication / reground (coa.data_provenance) • hazard_p_codes · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance) • packingGroup · canonical adjudication / reground (coa.data_provenance) • regulationRule · canonical adjudication / reground (coa.data_provenance) • signalWord · canonical adjudication / reground (coa.data_provenance) • unNumber · 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.

ALLIANCE CHEMICAL

Order D-Limonene 94% – Food Grade

Bulk & packaged sizes · COA/SDS ships with every order