

PRODUCT IDENTIFICATION



Product Name: D-Limonene 94% - Food Grade

CAS Number: 5989-27-5

Molecular Formula: C₁₀H₁₆

Molecular Weight: 136.23 g/mol

Grade: Food Grade

Purity / Concentration: 94%

Synonyms: D-Limonene, Limonene Oil

PRODUCT OVERVIEW

D-Limonene 94% is a high-quality, food-grade solvent derived from citrus oils, prized for its natural solvency and refreshing aroma. This product maintains a consistent 94% purity assay and is rigorously tested for heavy metals, with arsenic levels at 1 ppm and lead at 0.3 ppm.

Grade Significance: Food Grade designation ensures the product meets stringent purity standards and safety thresholds regarding heavy metal content, making it suitable for applications where incidental contact or consumption may occur.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	94	93.5	94.5	Application-Specific
Refractive Index 20C	—	1.472	1.47	1.474	Refractometry
Specific Gravity (25°C)	g/mL	0.84	0.838	0.845	IS: 548
Arsenic As	ppm	1	0	3	ICP-MS
Lead Pb	ppm	0.3	0	1	ICP-MS
Flash Point	°C	50	48	—	ASTM D93

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, pale yellow liquid with citrus essence	Form	Liquid
Boiling Point	348 to 349 °F at 760 mmHg (NTP, 1992)	Melting / Freezing Point	-142.4 °F (NTP, 1992)
Flash Point	119 °F (NTP, 1992)	Solubility	Organic solvent-soluble, water-insoluble
Molecular Formula	C ₁₀ H ₁₆	Molecular Weight	136.23 g/mol

APPLICATIONS

1. **Food and Beverage** — Utilized as a natural flavoring agent or aromatic additive in various food products to provide a distinct citrus profile.
2. **Industrial Cleaning** — Acts as a potent, biodegradable degreaser for removing oils, resins, and adhesives from industrial equipment and surfaces.
3. **Cosmetics and Personal Care** — Serves as a fragrance component in soaps, lotions, and detergents due to its pleasant citrus essence.
4. **Laboratory Research** — Used as a safer, natural alternative to synthetic solvents in various chemical synthesis and extraction processes.
5. **Agriculture** — Functions as an active ingredient in eco-friendly pesticide formulations and botanical insect repellents.

STORAGE & HANDLING

D-Limonene is a flammable liquid with a flash point of 50°C, meaning it must be stored in a cool, well-ventilated area away from open flames or ignition sources. Proper containment is essential to prevent accidental inhalation or skin contact, which can pose significant health risks.

- Store in a cool, dry place away from direct sunlight and heat sources.
- Use containers made of HDPE or glass to prevent chemical reactions.
- Avoid contact with strong oxidizing agents and acids.
- Ensure proper ventilation when handling to minimize inhalation exposure.
- Wear appropriate personal protective equipment (PPE) including gloves and safety 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: **Danger**



Hazard Statements:

- H226: Flammable liquid and vapour
- H304: May be fatal if swallowed and enters airways
- H315: Causes skin irritation
- H317: May cause an allergic skin reaction
- H410: Very toxic to aquatic life with long lasting effects

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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