

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% - Food Grade is a clear, pale yellow liquid with a citrus essence. This food-grade solvent boasts a high assay of 97.5% and a specific gravity of 0.841 g/mL (20°C). It is primarily used for general industrial and laboratory applications.

Grade Significance: Food Grade D-Limonene meets stringent purity standards, ensuring it is safe for use in food and beverage applications. This grade signifies that the product has been manufactured and handled according to Good Manufacturing Practices (GMP) to minimize the risk of contamination and ensure consumer safety.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	97.5	94	—	GC-FID
Refractive Index 20C	RIU	1.473	1.471	1.474	USP <831>
Specific Gravity (20°C)	g/mL	0.841	0.84	0.845	USP <841>
Residue After Ignition	%	0.01	—	0.02	FCC Method
Heavy Metals (as Pb)	ppm	1	—	10	USP <231>
Aldehydes As Citral	%	0.05	—	0.5	FCC Method

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	175°C (347°F)	Melting / Freezing Point	-96°C (-141°F)
Flash Point	48°C (118°F)	Solubility	Organic solvent-soluble, water-insoluble
Molecular Formula	C ₁₀ H ₁₆	Molecular Weight	136.23 g/mol

APPLICATIONS

1. **Food and Beverage** — Used as a flavoring agent and fragrance component in various food and beverage products. Its citrus aroma enhances the sensory experience.
2. **Cleaning Products** — Acts as a solvent in cleaning formulations, effectively removing grease, oil, and adhesives. Its natural citrus scent provides a pleasant fragrance.
3. **Cosmetics** — Used as a fragrance ingredient and solvent in personal care products like soaps, lotions, and perfumes. It contributes a refreshing citrus note.
4. **Aromatherapy** — Employed for its uplifting and energizing aroma in aromatherapy applications. It is believed to have mood-enhancing properties.
5. **Pharmaceuticals** — Utilized as a solvent and flavoring agent in some pharmaceutical preparations. It can help mask unpleasant tastes and improve palatability.
6. **Industrial Cleaning** — Effective in removing resins, waxes, and oils from industrial equipment and surfaces. Its solvency power makes it a versatile cleaning agent.

STORAGE & HANDLING

D-Limonene is a flammable liquid and vapor, so it must be stored in a cool, dry, well-ventilated area away from heat, sparks, open flames, and other sources of ignition. Proper storage minimizes the risk of fire and maintains product quality by preventing degradation from exposure to light and air.

- 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 vapor [Warning Flammable liquids]
- H304: May be fatal if swallowed and enters airways [Danger Aspiration hazard]
- H315: Causes skin irritation [Warning Skin corrosion/irritation]
- H317: May cause an allergic skin reaction [Warning Sensitization, Skin]
- H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]
- H412: Harmful to aquatic life with long lasting effects [Hazardous to the aquatic environment, long-term hazard]

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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