

MATERIAL SAFETY DATA SHEET

D-Limonene

1 PRODUCT NAME AND COMPANY IDENTIFICATION

Product Name:	D-Limonene
H.S. Code	29021900
Product Use	Flavor & Fragrance applications
Emergency Telephone Number:	+91-9891102691,+91-9582046649

2 COMPOSITION/INGREDIENT INFORMATION

Ingredients:	aldehyde content		
Hazardous Components:	Essential oil and derivatives		
CAS #:	5989-27-5		
Hazard Ratings:	Health: 1	Flammability: 2	Reactivity: 0

3 HAZARDS IDENTIFICATION



GHS Label

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

Precautionary Statements:

P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P241–Use explosion-proof electrical/ventilating/lighting equipment.
P261 – Avoid breathing dust/ fume/ gas/ mist/ vapours/spray
P273 – Avoid release to the environment
P280 – Wear protective gloves/eye protection/face protection.
P301 + 310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P303+361+353 – IN ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower.
P331 – Do NOT induce vomiting
P405 – Store locked up
P501 – Dispose of contents/container in accordance to with local/


state/ federal regulations. Signal Word: Warning	
4	FIRST AID MEASURES
Eyes:	<ul style="list-style-type: none"> • Remove contact lenses if applicable. • Flush with plenty of water or eye wash solution for 15 minutes. • Get medical attention.
Skin:	<ul style="list-style-type: none"> • Remove contaminated clothing. • Wash with soap and flush with plenty of water. • Seek medical attention if irritation persists.
Ingestion:	<ul style="list-style-type: none"> • Do not induce vomiting • Drink water or milk to dilute • Contact poison control center or seek medical attention immediately.
Inhalation:	<ul style="list-style-type: none"> • Avoid gross inhalation of fumes. • Remove to fresh air and seek medical attention if needed.

5	FIRE FIGHTING MEASURES
Flash Point (Method Used):	50°C
Extinguishing Media:	Dry Chemical, Carbon Dioxide, Foam
Special Firefighting Procedures:	<ul style="list-style-type: none"> • Fire fighters should wear positive pressure self-contained breathing apparatus. • Cool containers exposed to flame with water spray. • Spray extinguishing media directly into base of fire.
Unusual Fire & Explosion Hazards:	None known
Hazardous Decomposition Materials:	CO, CO ₂ , smoke and unidentified organic compounds may be formed during combustion.

6	ACCIDENTAL RELEASE MEASURES (STEPS FOR SPILLS)	
Personal Protection:	<ul style="list-style-type: none"> • Avoid ingestion • Follow good industrial practice as to housekeeping, personal hygiene and avoidance of prolonged or repeated contact with the skin or eyes. • Wear eye protection, boots, gloves and aprons. • Ventilate area well. <p>Note: Suggested clothing may not be enough in case of a large spill – consult a specialist before handling this product.</p>	
Methods for Cleaning Up:	<ul style="list-style-type: none"> • Eliminate all sources of ignition • Ventilate area • Prevent liquid from entering sewers • Small spills can be wiped up with paper rags (place in closed metal waste container) • Large spills can be absorbed onto non-flammable absorbent. • Wash area with soap and water. 	
7	HANDLING AND STORAGE	
Handling Safe Handling:	<ul style="list-style-type: none"> • Follow good industrial practice as to housekeeping, personal hygiene and avoidance of prolonged or repeated contact with the skin or eyes. • Wear eye protection, gloves and aprons. Ventilate area well. 	
Storage Requirements for Storage Areas and Containers:	<ul style="list-style-type: none"> • Store in an area that is cool, dry, and well-ventilated. 	
8	EXPOSURE CONTROL/PERSONAL PROTECTION	
Threshold Limit Value:	Not established	
OSHA Permissible Limit	Not established	
Work Practice Controls:	<p>Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:</p> <p>(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.</p> <p>(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.</p> <p>(3) Wash exposed skin promptly to remove accidental splashes or contact with this material.</p>	
Respiratory:	Avoid casual breathing of vapors	

Ventilation:	Local, mechanical exhaust in recommended
Eye:	OSHA approved safety glasses
Skin:	Wear chemical resistant gloves and clothing to avoid skin contact Note: Suggested clothing may not be enough in case of a large spill – consult a specialist before handling this product.
9	PHYSICAL AND CHEMICAL PROPERTIES
Physical State:	Liquid, Oil
Color:	Colorless mobile liquid
Odor:	Characteristic odor and taste of alpha pinene.
Vapor Pressure (mm Hg.):	Not available
Boiling Point:	Not available
Melting Point:	N/A
Specific Gravity (H ₂ O = 1):	00.838 to 0.8441@ 20°C
Refractive Index:	1.4701 to 1.4740
Optical Rotation (at 20°C)	+95.55° to +104°

10	STABILITY AND REACTIVITY		
Stability:	This material is stable under normal conditions.		
Incompatibility (Materials to Avoid):	Avoid contact with strong oxidizing agents and avoid hot work and sources of ignition on or near empty containers.		
Conditions to Avoid:	Avoid contact with sparks, flame and heat.		
Hazardous Decomposition or Byproducts:	CO, CO ₂ , smoke and unidentified organic compounds may be formed during combustion.		
Hazardous Polymerization:	Will Not Occur		
11	TOXICOLOGICAL INFORMATION		
Toxicity:	ORAL (LD ₅₀):	Acute:	2426 mg/kg (Rat)
Other Toxic Effects on Humans:	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.		
Special Remarks on Other Toxic Effects on Humans	Acute Potential Health Effects: <ul style="list-style-type: none"> • Skin: May cause skin irritation. • Eyes: Causes eye irritation. May cause loss of corneal epithelium, corneal infiltration, release of pigment into the anterior chamber with deposits on the back of the cornea. • Inhalation: May cause respiratory tract irritation. • Ingestion: May cause gastrointestinal tract irritation. • May affect behavior/central nervous system (mild stimulation followed by depression, twitching, spastic convulsions, ataxia), and respiration (slowed respiration). 		

	<ul style="list-style-type: none">• Other symptoms may include atrial fibrillation, muscle pain, cooling sensation, burning sensation. <p>Chronic Potential Health Effects:</p> <ul style="list-style-type: none">• Skin: Prolonged or repeated skin contact may cause allergic dermatitis.• Ingestion: Prolonged or repeated ingestion may affect the urinary system and brain
12	ECOLOGICAL INFORMATION
No information	
13	DISPOSAL CONSIDERATIONS
Waste Disposal Methods: Dispose of according to local, state and federal regulations.	
14	TRANSPORT INFORMATION
	<div></div> <p>ADR/IMDG/IATA Class: 3 Packing group: III Proper shipping name: DIPENTENE UN number:2052</p>

15	REGULATORY INFORMATION		
Federal and State Regulations:		TSCA 8(b) inventory:	D-Limonene
HMIS (U.S.A.):	Health: 2	Fire: 2	Reactivity: 0
National Fire Protection Association (U.S.A.):	Health: 2	Flammability: 2	Reactivity: 0

16	OTHER INFORMATION
<p>The information above is believed to be accurate and represents the best information currently available to us. However, Natural Aroma Products Pvt Ltd makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Natural Aroma Products Pvt Ltd be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages</p>	