

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Precautionary Statements - Response

If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. In case of fire: Use CO₂, dry chemical, or foam for extinction.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other Hazards

Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
d-Limonene	5989-27-5	40-50

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact	Immediately flush with plenty of water for up to 15 minutes. Get prompt medical attention.
Skin Contact	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	Remove to fresh air. If symptoms develop, seek medical attention. If not breathing, give artificial respiration.
Ingestion	Call a poison center or doctor/physician if you feel unwell. Rinse mouth.

Most important symptoms and effects

Symptoms	May be harmful if swallowed. May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Foam. Carbon dioxide (CO₂).

Unsuitable Extinguishing Media Do not use water except as a mist or foam as it may spread the burning material.

Specific Hazards Arising from the Chemical

Rags soaked with this product may spontaneously ignite; to avoid this danger, used rags should be soaked with water and/or stored in a container full of soapy water. In a fire, closed containers of this product may burst or rupture due to pressure build-up, greatly increasing fire hazard.

Hazardous Combustion Products When strongly heated, as in a fire, this product may produce oxides of carbon.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. All containers should be cooled with water to prevent vapor pressure build up.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment as required.

Environmental Precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Small spills: Soak up with an inert absorbent and place in designated disposal container. Rinse area thoroughly. Large spills: Remove sources of ignition and ventilate area. Soak up with an inert absorbent and place in designated disposal container. Rinse area thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Wash face, hands, and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store in a well-ventilated place. Keep cool.

Incompatible Materials Oxidizing agents such as bleach; Strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls Mechanical ventilation recommended when handling in enclosed, tight spaces.

Individual protection measures, such as personal protective equipment

- Eye/Face Protection** Safety glasses or safety goggles are recommended.
- Skin and Body Protection** Chemical resistant gloves are recommended.
- Respiratory Protection** None required if good ventilation is maintained.
- General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State Liquid
Appearance Pale amber liquid
Color Pale amber
Odor Citrus

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not available	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	175 °C / 347 °F	
Flash Point	47 °C / 115 °F	TCC
Evaporation Rate	<1	(BA=1)
Flammability (Solid, Gas)	Liquid-Not applicable	
Upper Flammability Limits	6.1%	
Lower Flammability Limit	0.7%	
Vapor Pressure	1 mmHg	
Vapor Density	4.7	(Air=1)
Specific Gravity	0.865	(Water = 1)
Water Solubility	Miscible in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
VOC Content	<48.82%	

10. STABILITY AND REACTIVITY

Reactivity
 Not reactive under normal conditions.

Chemical Stability
 Stable under recommended storage conditions.

Possibility of Hazardous Reactions
 None under normal processing.

Conditions to Avoid
 Keep out of reach of children.

Incompatible Materials
 Oxidizing agents such as bleach; Strong acids.

Hazardous Decomposition Products
 When strongly heated, as in a fire, this product may produce oxides of carbon.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact	Avoid contact with eyes.
Skin Contact	May be harmful in contact with skin. Causes skin irritation.
Inhalation	Do not inhale.
Ingestion	May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
d-Limonene 5989-27-5	= 4400 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
Proprietary	= 1400 mg/kg (Rat) = 1378 mg/kg (Rat)	> 2 g/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause an allergic skin reaction.

Carcinogenicity Group 3 IARC components are "not classifiable as human carcinogens".

Chemical Name	ACGIH	IARC	NTP	OSHA
d-Limonene 5989-27-5		Group 3		

Legend

*IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"*

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Not determined.

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined.

Other Adverse Effects

Not determined.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
d-Limonene 5989-27-5	Toxic

14. TRANSPORT INFORMATION

Note According to 49 CFR §173.150(f)(1), this material should be reclassified as "NA1993, Combustible Liquid, N.O.S." if it is shipped in bulk.

DOT Not regulated

IATA

UN/ID No	UN1993
Proper Shipping Name	Flammable liquid, n.o.s. (Orange Terpene)
Hazard Class	3
Packing Group	III

IMDG

UN/ID No	UN1993
Proper Shipping Name	Flammable liquid, n.o.s. (Orange Terpene)
Hazard Class	3
Packing Group	III

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
d-Limonene	Present	X		Present		Present	X	Present	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations

California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations.

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards Not determined	Flammability Not determined	Instability Not determined	Special Hazards Not determined
<u>HMIS</u>	Health Hazards 2	Flammability 2	Physical Hazards 0	Personal Protection B

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet