

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 05/11/2016 Date of Issue: 05/11/2016

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: D Limo Sol

1.2. Intended Use of the Product

Use of the Substance/Mixture: No use is specified

1.3. Name, Address, and Telephone of the Responsible Party

Company

Bradley Inc. Chemicals

2523 Gallatin Ave

Nashville, TN 37206

Phone: (615) 227-7561

1.4. Emergency Telephone Number

Emergency Number : (615) 227-7561

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Flam. Liq. 3 H226

Skin Irrit. 2 H315

Skin Sens. 1 H317

Asp. Tox. 1 H304

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

Hazard Statements (GHS-US)

Precautionary Statements (GHS-US)

- : Danger
- : H226 - Flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H400 - Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.
- : P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, and lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.
 P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide to extinguish.
 P391 - Collect spillage.
 P405 - Store locked up.
 P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.
 P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	GHS-US classification
D-Limonene	(CAS No) 5989-27-5	50	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Alkanes, C10-13-iso-	(CAS No) 68551-17-7	45 - 50	Flam. Liq. 3, H226 Asp. Tox. 1, H304

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Causes skin irritation. Skin sensitization. May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: May cause an allergic skin reaction.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water may be ineffective but water should be used to keep fire-exposed container cool.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

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5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Flammable liquid and vapor. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors.

Explosion Hazard: May form flammable or explosive vapor-air mixture.

Reactivity: Reacts violently with strong oxidizers. Increased risk of fire or explosion.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities:

Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂).

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, spray). Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Ventilate area. Eliminate ignition sources.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Use only non-sparking tools. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray. Take precautionary measures against static discharge. Use only non-sparking tools.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

Storage Conditions: Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

Incompatible Products: Strong acids. Strong oxidizers.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

D-Limonene (5989-27-5)		
USA AIHA	WEEL TWA (ppm)	30 ppm

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8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Hand Protection

: Wear protective gloves.

Eye Protection

: Chemical safety goggles.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

- Physical State : Liquid
- Appearance : No data available
- Odor : No data available
- Odor Threshold : No data available
- pH : No data available
- Evaporation Rate : No data available
- Melting Point : No data available
- Freezing Point : No data available
- Boiling Point : No data available
- Flash Point : No data available
- Auto-ignition Temperature : No data available
- Decomposition Temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor Pressure : No data available
- Relative Vapor Density at 20°C : No data available
- Relative Density : No data available
- Solubility : No data available
- Partition Coefficient: N-Octanol/Water : No data available
- Viscosity : No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity: Reacts violently with strong oxidizers. Increased risk of fire or explosion.
- 10.2. Chemical Stability: Flammable liquid and vapor. May form flammable or explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 10.5. Incompatible Materials: Strong acids. Strong oxidizers.
- 10.6. Hazardous Decomposition Products: None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Acute Toxicity: Not classified

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D-Limonene (5989-27-5)	
LD50 Oral Rat	4400 mg/kg
LD50 Dermal Rabbit	> 5 g/kg

Skin Corrosion/Irritation: Causes skin irritation.
 Serious Eye Damage/Irritation: Not classified
 Respiratory or Skin Sensitization: May cause an allergic skin reaction.
 Germ Cell Mutagenicity: Not classified
 Carcinogenicity: Not classified

D-Limonene (5989-27-5)	
IARC group	3
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.

Reproductive Toxicity: Not classified
 Specific Target Organ Toxicity (Single Exposure): Not classified
 Specific Target Organ Toxicity (Repeated Exposure): Not classified
 Aspiration Hazard: May be fatal if swallowed and enters airways.
 Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.
 Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.
 Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.
 Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.
 Chronic Symptoms: May cause an allergic skin reaction.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Very toxic to aquatic life with long lasting effects.

D-Limonene (5989-27-5)	
LC50 Fish 1	0.619 (0.619 - 0.796) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.421 mg/l
LC50 Fish 2	35 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

12.2. Persistence and Degradability

Citrus Sol	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

Citrus Sol	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.
 Additional Information: Handle empty containers with care because residual vapors are flammable.
 Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : FLAMMABLE LIQUIDS, N.O.S. (Contains D-Limonene, Alkanes, C10-13-iso-)
 Hazard Class : 3
 Identification Number : UN1993
 Label Codes : 3
 Packing Group : III
 Marine Pollutant : Marine pollutant
 ERG Number : 128



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14.2. In Accordance with IMDG

Proper Shipping Name : FLAMMABLE LIQUID, N.O.S.
 Hazard Class : 3
 Identification Number : UN1993
 Packing Group : III
 Label Codes : 3
 EmS-No. (Fire) : F-E
 EmS-No. (Spillage) : S-E
 Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : FLAMMABLE LIQUID, N.O.S. (Contains D-Limonene, Alkanes, C10-13-iso-)
 Packing Group : III
 Identification Number : UN1993
 Hazard Class : 3
 Label Codes : 3
 ERG Code (IATA) : 3L



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Citrus Sol	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard
D-Limonene (5989-27-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Alkanes, C10-13-iso- (68551-17-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State Regulations Neither this product nor its chemical components appear on any US state lists.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/11/2016
 Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200

GHS Full Text Phrases:

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Skin Sens. 1B	Skin sensitization Category 1B
H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)