

**D-Limonene****1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** D-Limonene

**Synonyms/Generic Names:** (+)-Dipentene; (+)-Limonene, (R)-(+)-Limonene

**Product Use:** Industrial, Manufacturing or Laboratory

Manufacturer: Alliance Chemical  
204 S. Edmond Street  
Taylor, Texas 76574

**For More Information:** 512-365-6838 (Monday-Thursday 8:00AM-4:00PM) Friday 8AM-12PM  
www.alliancechemical.com

**In Case of Emergency Call:** CHEMTEL - 1-800-255-3924 (24 Hours/Day, 7 Days/Week)

**2. HAZARDS IDENTIFICATION**

**OSHA Hazards:** Flammable, Irritant, Target organ effect

**Target Organs:** Kidney, Liver, Lung

**Signal Word:** Danger

**Pictograms:**



**GHS Classification:**

Flammable liquids	Category 3
Skin irritation	Category 2
Aspiration hazard	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H410	Very toxic to aquatic life with long lasting effects.

**Precautionary Statements:**

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using the product.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P243	Take action to prevent static discharge.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P391	Collect spillage.
P233	Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P273	Avoid release to the environment.

**Potential Health Effects**

<b>Eyes</b>	May cause eye irritation.
<b>Inhalation</b>	May cause respiratory tract irritation.
<b>Skin</b>	May cause skin irritation.
<b>Ingestion</b>	May be harmful if swallowed.

**NFPA Ratings**

<b>Health</b>	2
<b>Flammability</b>	2
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	2
<b>Fire</b>	2
<b>Reactivity</b>	0
<b>Personal</b>	Not Available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
D-Limonene	>99.5	5989-27-5	227-813-5	C <sub>10</sub> H <sub>16</sub>	136.24 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Rinse with plenty of water for at least 15 minutes and seek medical attention.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable (and unsuitable) extinguishing media</b>	Product is flammable. Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes under fire conditions. (See also Stability and Reactivity section).

---

## 6. ACCIDENTAL RELEASE MEASURES

---

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

---

## 7. HANDLING AND STORAGE

---

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

**Occupational exposure controls:** Contains no substances with occupational exposure limit values.

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, and apron or lab coat.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

Appearance (physical state, color, etc.)	Clear, water-white liquid.
Odor	Characteristic.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	-74 °C (-101 °F)
Initial boiling point and boiling range	175 - 176 °C (348 - 349 °F)
Flash point	48 °C (118 °F)
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	2.1 hPa at 20 °C
Vapor density	Not Available
Specific gravity	0.841

Solubility (ies)	Insoluble in water.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	255 °C (491 °F)
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Heat, sparks, open flame, and static discharge
<b>Incompatible Materials</b>	Acids, strong oxidizing agents, strong reducing agents
<b>Hazardous Decomposition Products</b>	Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	LD50 Dermal – rabbit – >5 g/kg
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 Oral – rat – 5200 mg/kg LD5 Oral – rat – 4400 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation, redness.
<b>Eyes</b>	Irritation, redness, watering eyes.
<b>Respiratory</b>	Irritation, coughing.
<b>Ingestion</b>	Irritation, nausea, vomiting, diarrhea.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

<b>Aquatic Vertebrate</b>	LC50 – Oncorhynchus mykiss – 35 mg/L – 96h LC50 – Pimephales promelas – 0.619-0.796 mg/L – 96h
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

---

### 13. DISPOSAL CONSIDERATIONS

---

<b>Waste Product or Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

---

### 14. TRANSPORTATION INFORMATION

---

US DOT	UN2052, Dipentene, 3, PG III
TDG	UN2052, DIPENTENE, 3, PG III
IMDG	UN2052, DIPENTENE, 3, PG III
Marine Pollutant	No
IATA/ICAO	UN2052, Dipentene, 3, PG III

---

### 15. REGULATORY INFORMATION

---

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Fire Hazard, Acute Health Hazard, Chronic Health Hazard
SARA 312	Fire Hazard, Acute Health Hazard, Chronic Health Hazard
SARA 313	Not Listed

---

## 16. OTHER INFORMATION

---

Revision	Date
Original	02/27/2019

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.