

# MATERIAL SAFETY DATA SHEET



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## CHEMTREC 24-HOUR EMERGENCY RESPONSE

TOLL FREE NUMBER: (800) 424-9300

INTERNATIONAL CALLS: COLLECT (202) 483-7616

CHEMTREC should only be contacted in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals.

## 1. PRODUCT IDENTIFICATION

(Produced in China)

Product Name	Synonym	CAS Number	Use
Dipentene-C	Dipentene Terpene Hydrocarbon	68956-56-9	Varied applications

## 2. HAZARDOUS INGREDIENTS

Hazardous Components	%	OSHA PEL	ACGIH TLV	Other Limits
A-Pinene (CAS# 80-56-8)	5	N/A	N/A	N/A
para-Menthadienes	89			
Terpene Hydrocarbons	6	N/A	N/A	N/A

para-Menthadiene: (Rat) LD50, Oral, Greater than 2000 mg/kg.  
(Rabbit) Skin, 500 mg./24H Moderate

Terpene Hydrocarbons: (Rat) LD50, Oral, Greater than 4000 mg/kg.  
(Rabbit) Skin, 500 mg./24H Moderate

## 3. HAZARD IDENTIFICATION

NFPA Codes: Health: 1 Fire: 2 Reactivity: 0

(Degree of Hazard: 4=Extreme 3=High 2=Moderate 1=Slight 0=Insignificant)

### Health Effects:

**On Skin:** Irritant, may cause temporary redness. Mild local irritation and sensitization. Intensive or continuous contact with skin may cause dermatitis.

**On Eyes:** Irritant, may cause burning, redness, pain.

### By Accidental

**Ingestion:** Harmful if ingested, gastrointestinal irritation. Abdominal pain, nausea, vomiting, dizziness.

**By Inhalation:** Irritant to respiratory tract, sore throat, coughing, shortness of breath, dizziness, nausea.

### By Pressure

**Injection:** Injection of all products will cause severe internal damage if not properly treated.

**Other:** Kidney damage may occur (route of exposure not reported).

## 4. FIRST AID MEASURES

### EMERGENCY AND FIRST AID PROCEDURES:

**Skin Contact:** Wash affected area with copious amounts of soap and water.

**Eye Contact:** Remove any contact lenses at once. Flush eyes well with large quantities of water for at least 15 min. See physician immediately.

**Accidental Ingestion:** For small amounts, give milk of magnesia or a glass or two of water or milk. For large quantities, consult a physician.

**Inhalation:** If symptoms of overexposure are experienced, evacuate to fresh air. If symptoms persist, seek medical attention.

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## 5. FIRE & EXPLOSION HAZARD DATA

**Flash Point (TCC):** 115°F (46.1°C)      **Identification No.:** UN 2052  
**Extinguishing Media:** Regular Foam, CO<sub>2</sub>, Dry Chemical (Class B)  
**Flammable Limits:** Not Available  
 (% by volume)

**Special Fire Fighting Procedures and Equipment:** Do NOT use water. As with any fire situation, full face, self-contained breathing apparatus and appropriate protective clothing should be worn. Under fire conditions, this product may release CO, CO<sub>2</sub>, and other decomposition products of undetermined hazard. Water is unsuitable for use on burning material, but may be used to cool containers exposed to heat.

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## 6. SPILL OR LEAK PROCEDURES

**Steps to be Taken in Case Material is Released or Spilled:** Use protective gloves to avoid skin contact. Small spills can be wiped up with vermiculite or other suitable absorbent material and removed to an approved disposal container. Large spills should be absorbed by dirt, sand, or other suitable absorbents for disposal. Do not hose spills down drains. Move leaking containers to well ventilated area. No Smoking. Eliminate any source of ignition. Avoid inhalation. Use NIOSH-approved respiratory protection device.

**Waste Handling & Disposal Method:** Dispose of in accordance with Federal, State and Local environmental regulations.

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## 7. SPECIAL PRECAUTIONS

**Handling and Storage Precautions:** Store in glass, tin-lined, stainless steel or epoxy-lined containers to preserve quality. Do not store in plastic. Store in closed containers away from heat or sources of ignition and oxidizing materials. Protect against physical damage to containers. Avoid inhalation and contact with skin and eyes.

**Other Precautions:** Do not dispose of solvent or oil-soaked combustible materials (rags, paper, etc.) in an open container or trash can. Place rags in approved waste cans or soak with water.

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## 8. OCCUPATIONAL PROTECTIVE MEASURES

**Respiratory Protection:** Not normally needed in well ventilated areas. If vapor concentration is high, use NIOSH-approved respiratory protection device.  
**Ventilation:** General mechanical ventilation (to reduce fumes).  
**Protective Gloves:** Neoprene or Rubber.  
**Eye Protection:** OSHA-approved safety glasses with side shields.  
**Other Protective Equipment:** Eye bath and safety shower.  
**Work/Hygienic Practices:** Good personal hygiene practices should be used. Wash after any contact, before eating, and at the end of the work period.

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## 9. PHYSICAL/CHEMICAL CHARACTERISTICS

<b>Boiling Point:</b> (760 mm Hg)	351°F (177.2°C)	<b>Odor:</b>	Mild Pine aroma
<b>Vapor Pressure</b> (mmHg @ 20°C)	< 2mm	<b>Vapor Density:</b> (Air = 1)	4.80
<b>Specific Gravity:</b> (H <sub>2</sub> O =1)	0.850 - 0.875	<b>Refractive Index:</b> (@ 20°C)	1.468 – 1.477
<b>Solubility in Water:</b>	Insoluble	<b>Evaporation Rate:</b> (butyl acetate = 1)	4.4

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**10. REACTIVITY DATA**

<b>Stability:</b>	Stable under ordinary conditions of use and storage.
<b>Hazardous Decomposition Products:</b>	Burning produces Carbon Monoxide and/or Carbon Dioxide.
<b>Hazardous Polymerization:</b>	Will not occur.
<b>Incompatibilities:</b>	Avoid strong oxidizing agents. Do not store in plastic containers. Avoid exposure to sparks, heat and flames.

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**11. HEALTH HAZARD DATA**

<b>Carcinogenicity:</b> N/A	<b>NTP:</b> N/A	<b>OSHA:</b> Combustible Liquid	<b>IARC:</b> N/A
<b>Signs and Symptoms of Acute and Chronic Exposure:</b> Eye, skin and mucous membrane irritation			
<b>Primary Routes of Entry:</b> Inhalation and Absorption			
<b>Medical Conditions Aggravated:</b> Eye, skin and upper respiratory inflammation.			

**EMERGENCY AND FIRST AID PROCEDURES:**

<b>Skin Contact:</b>	Wash affected area with copious amounts of soap and water.
<b>Eye Contact:</b>	Remove any contact lenses at once. Flush eyes well with large quantities of water for at least 15 minutes. See a physician immediately.
<b>Accidental Ingestion:</b>	For small amounts, give milk of magnesia or a glass or two of water or milk. For large quantities, consult a physician.
<b>Inhalation:</b>	If symptoms of overexposure are experienced, evacuate to fresh air. If symptoms persist, seek medical attention.

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**12. ECOLOGICAL INFORMATION**

"Marine Pollutant: Classified as slight hazard for water WGK-1 (self statement)"

<b>Ecotoxicity: Fish Toxicity:</b>	LC-0 = 26 mg/l LC-50 = 33 mg/l LC-100=43 mg/l Daphnia toxicity: not available Alga toxicity: not available Earthworm toxicity: not available Plant toxicity: not available
<b>Ozone Depletion Potential:</b>	Zero stratospheric
<b>Global Warming Potential:</b>	Zero
<b>Photodegradability:</b>	Atmospheric half-life = c.a. 1 hour. (Note: d-Limonene, in common with other terpenes, represent a major sink for the undesirable tropospheric ozone, removing the smog-forming catalyst nitrogen oxides and consuming ozone at an increased rate at night. While the material is photoreactive, the benefits of removing ozone and nitrogen oxides outweigh the negative with hydroxyl radical)
<b>Bio-Accumulation:</b>	Not available
<b>Other Data:</b>	Chemical oxygen demand: 2.850 gO <sub>2</sub> /l or 3.280 gO <sub>2</sub> /kg

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**13. DISPOSAL CONSIDERATIONS**

**Waste Handling & Disposal Method:** Dispose of in accordance with Federal, State and Local environmental regulations. In most cases land fill or incineration would apply. There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally are applied as "special waste." We recommend that you contact either the authorities in charge or approved waste companies which will advise you on how to dispose of special waste. Do not allow to enter drinking water supplier, waste water or soil without municipal authorization.

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## 14. TRANSPORT INFORMATION

### Shipping Classifications:

U.S. DOT:               Drums - Dipentene, Class 65, PG III  
                              Bulk – Dipentene, Combustible Liquid, UN 2052  
Int'l./Air Freight:    UN 2052 - Dipentene, Class 3, Flammable Liquid (page 124 DGR)

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## 15. REGULATORY STATUS

- 1) FDA & FEMA list d-Limonene as GRAS - Generally Regarded As Safe.
- 2) NTP, OSHA, and IARC do NOT list product as carcinogenic to humans.
- 3) Unused product is NOT listed by EPA as hazardous waste (40 CFR part 26 IQ).
- 4) Dipentene is NOT listed on California's Prop. 65 toxic substance list.
- 5) Dipentene is listed on EPA's Chemical Inventory, PL94-469; however, NOT on EPA's CORR (Chemicals or Regulatory Rules) list, which contains those materials which pose a health or environmental risk.
- 6) Dipentene does NOT contain lead, cadmium, mercury, or hexavalent chromium or come into contact with these chemicals since it is a pine derived by-product oil produced by distillation.
- 7) The components of this product are included on the EPA TSCA Chemical Substance Inventory.
- 8) The components of this product are included on Canada's Domestic Substance List (DSL).

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## 16. OTHER INFORMATION

**VOC INFORMATION:** Dipentene is reportable as 95% VOC.

**ASTM D1364:**           <0.1% Water  
**EPA 24 DENSITY:**    0.8422 Kg/L Density

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## 17. REFERENCES

1. Naval Stores Production, Chemistry & Utilization by Zinkel & Russell-1989

The information contained herein is based on data considered to be accurate and reliable. No warranty is expressed or implied regarding the accuracy or correctness of this data. It is the user's obligation to determine the safe use of the product since conditions of use, handling, storage and disposal are beyond our control.