

# BEBBINGTON INDUSTRIES SAFETY DATA SHEET

---

SUPPLIER: BEBBINGTON INDUSTRIES  
44 WRIGHT AVENUE  
DARTMOUTH, NOVA SCOTIA, CANADA B3B 1G6  
Email: [customerservice@bebbingtonindustries.ca](mailto:customerservice@bebbingtonindustries.ca)  
EMERGENCY NUMBER: CANUTEC 1 613 996 6666

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

---

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** : D-Limonene  
**Product Use Description** : industrial chemical

#### Manufacturer or supplier's details

**SUPPLIER:** BEBBINGTON INDUSTRIES  
44 WRIGHT AVENUE  
DARTMOUTH, NOVA SCOTIA, CANADA B3B 1G6

**Email:** [customerservice@bebbingtonindustries.ca](mailto:customerservice@bebbingtonindustries.ca)

**EMERGENCY NUMBER:** CANUTEC 1 613 996 6666

---

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 3  
Skin irritation : Category 2  
Eye irritation : Category 2A  
Skin sensitisation : Category 1  
Aspiration hazard : Category 1

#### GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P331 Do NOT induce vomiting.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

### Potential Health Effects

#### Carcinogenicity:

##### IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

or confirmed human carcinogen by IARC.

### ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Emergency Overview

|                |                            |
|----------------|----------------------------|
| Appearance     | liquid                     |
| Colour         | colourless, light yellow   |
| Odour          | characteristic, of oranges |
| Hazard Summary | No information available.  |

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

### Hazardous components

| CAS-No.    | Chemical Name   | Concentration (%) |
|------------|-----------------|-------------------|
| 5989-27-5  | d-Limonene      | 0 - 100           |
| 94266-47-4 | Citrus terpenes | 0 - 100           |

**Synonyms** : Citrus Stripper Oil, Terpene Hydrocarbons, Technical Grade d-Limonene,

## SECTION 4. FIRST AID MEASURES

**General advice** : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Symptoms of poisoning may appear several hours later.  
Do not leave the victim unattended.

**If inhaled** : If unconscious place in recovery position and seek medical advice.

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

|                         |  |
|-------------------------|--|
|                         | : If symptoms persist, call a physician.   |
| In case of skin contact | : If skin irritation persists, call a physician.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes.   |
| In case of eye contact  | : Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.  |
| If swallowed            | : Keep respiratory tract clear.<br>Do NOT induce vomiting.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.<br>Take victim immediately to hospital. |

---

### SECTION 5. FIREFIGHTING MEASURES

|   |   |
|---|---|
| Suitable extinguishing media                  | : Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical   |
| Unsuitable extinguishing media                | : High volume water jet   |
| Specific hazards during firefighting          | : Do not allow run-off from fire fighting to enter drains or water courses.   |
| Hazardous combustion products                 | : Carbon monoxide<br>Carbon dioxide (CO <sub>2</sub> )  |
| Specific extinguishing methods                | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>Use a water spray to cool fully closed containers.  |
| Further information                           | : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.<br>For safety reasons in case of fire, cans should be stored separately in closed containments. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary.  |

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

**NFPA Flammable and Combustible Liquids Classification:**  
Combustible Liquid Class II

---

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- |   |   |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.<br>Ensure adequate ventilation.<br>Remove all sources of ignition.<br>Evacuate personnel to safe areas.<br>Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. |
| Environmental precautions   | : Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform respective authorities.   |
| Methods and materials for containment and cleaning up               | : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).                     |

---

### SECTION 7. HANDLING AND STORAGE

- |                             |   |
|-----------------------------|---|
| Advice on safe handling     | : Avoid formation of aerosol.<br>Do not breathe vapours/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Take precautionary measures against static discharges.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Open drum carefully as content may be under pressure.<br>Dispose of rinse water in accordance with local and national regulations.<br>Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. |
| Conditions for safe storage | : No smoking.   |

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

rage

Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Observe label precautions.  
Electrical installations / working materials must comply with the technological safety standards.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| CAS-No.   | Components | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis |
|-----------|------------|----------------------------------|--|-------|
| 5989-27-5 | d-Limonene | TWA                              | 20 ppm   | ACGIH |

#### Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection  
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : colourless, light yellow

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

|   |   |
|---|---|
| Odour                                       | : characteristic, of oranges                |
| Odour Threshold                             | : not determined                            |
| pH  | : not applicable                            |
| Freezing Point (Melting point/range)        | : -96 °C (-141 °F)<br>(1013 hPa)            |
| Boiling Point (Boiling point/boiling range) | : 175 - 177 °C (347 - 351 °F)<br>(1013 hPa) |
| Flash point                                 | : 43 °C (109 °F)                            |
| Evaporation rate                            | : 0.2<br>n-Butyl Acetate                    |
| Flammability (solid, gas)                   | : No data available                         |
| Burning rate                                | : No data available                         |
| Upper explosion limit                       | : 6.1 %(V)                                  |
| Lower explosion limit                       | : 0.7 %(V)                                  |
| Vapour pressure                             | : < 2 mmHg @ 20 °C (68 °F)                  |
| Relative vapour density                     | : 4.7                                       |
| Relative density                            | : 0.838 - 0.843 @ 25 °C (77 °F)             |
| Density                                     | : No data available                         |
| Bulk density                                | : No data available                         |
| Solubility(ies)                             |   |
| Water solubility                            | : insoluble                                 |
| Solubility in other solvents                | : No data available                         |
| Partition coefficient: n-octanol/water      | : No data available                         |
| Auto-ignition temperature                   | : 237 °C                                    |
| Thermal decomposition                       | : No data available                         |

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

---

### SECTION 10. STABILITY AND REACTIVITY

|                                    |  |
|------------------------------------|--|
| Reactivity                         | : No dangerous reaction known under conditions of normal use.  |
| Chemical stability                 | : Stable under normal conditions.  |
| Possibility of hazardous reactions | : Vapours may form explosive mixture with air.<br>Stable under normal conditions.  |
| Conditions to avoid                | : Keep away from heat, flame, sparks and other ignition sources.<br>Exposure to air.<br>Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up. |
| Incompatible materials             | : Avoid contact with:<br>halogens<br>peroxides<br>Strong acids<br>Strong oxidizing agents<br>acidic clays<br>vinyl chloride<br>iodine pentafluoride                                    |
| Hazardous decomposition products   | : acrid smoke and fumes  |

---

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Product:

|                       |   |
|-----------------------|---|
| Acute oral toxicity   | : Acute toxicity estimate : 2,340 mg/kg<br>Method: Calculation method |
| Acute dermal toxicity | : Acute toxicity estimate : 5,000 mg/kg<br>Method: Calculation method |

##### Components:

##### **5989-27-5:**

|                     |   |
|---------------------|---|
| Acute oral toxicity | : LD50 (rat): 4,400 mg/kg<br>Assessment: The component/mixture is low toxic after single ingestion. |
|---------------------|---|



# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (rabbit): > 5,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### **94266-47-4:**

Acute oral toxicity : LD50 (rabbit): > 5,000 mg/kg

Acute inhalation toxicity : RD50 (mouse): 1 mg/l

Acute dermal toxicity : LD50 (rabbit): > 5,000 mg/kg

### **Skin corrosion/irritation**

#### Product:

Remarks: May cause skin irritation and/or dermatitis.

#### Components:

##### **5989-27-5:**

Species: rabbit

Result: Irritating to skin.

##### **94266-47-4:**

Species: guinea pig

Result: Mild skin irritation

### **Serious eye damage/eye irritation**

#### Product:

Remarks: Irritating to eyes.

#### Components:

##### **5989-27-5:**

Species: rabbit

Result: No eye irritation

##### **94266-47-4:**

Species: rabbit

Result: Eye irritation

### **Respiratory or skin sensitisation**

#### Components:

##### **5989-27-5:**

Test Type: lymph node assay

Species: mouse

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

Result: May cause sensitisation by skin contact.

### 94266-47-4:

Assessment: The product is a skin sensitiser, sub-category 1B.

Result: The product is a skin sensitiser, sub-category 1B.

### Germ cell mutagenicity

#### Components:

##### 5989-27-5:

Genotoxicity in vitro : Test Type: Mammalian cell gene mutation assay  
Test species: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Result: negative

Genotoxicity in vivo : Test Type: DNA damage and/or repair  
Test species: rat  
Cell type: Kidney cells  
Application Route: Oral  
Result: negative

Germ cell mutagenicity-Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Carcinogenicity

#### Components:

##### 5989-27-5:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

### Reproductive toxicity

#### Components:

##### 5989-27-5:

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, and on development, based on animal experiments.

### STOT - single exposure

#### Product:

No data available

#### Components:

No data available

# Safety Data Sheet

## D-Limonene

Version 1.0

Revision Date: 09/11/2014

### Components:

No data available

### **STOT - repeated exposure**

### Product:

No data available

### Components:

No data available

### Components:

No data available

### **Repeated dose toxicity**

### Components:

#### **5989-27-5:**

Species: mouse

LOAEL: 3,300 mg/kg

Application Route: Oral

Exposure time: 16 d

### **Aspiration toxicity**

### Components:

#### **5989-27-5:**

May be fatal if swallowed and enters airways.

#### **94266-47-4:**

May be fatal if swallowed and enters airways.

### **Further information**

### Product:

Remarks: Solvents may degrease the skin.

## Safety Data Sheet

### D-Limonene

Version 1.0

Revision Date: 09/11/2014

---

#### SECTION 12. ECOLOGICAL INFORMATION

|                               |  |
|-------------------------------|--|
| Precautions                   | Keep away from drains and water ways.                    |
| Eco toxicity                  | This product is harmful to aquatic and terrestrial life. |
| Persistence and degradability | Biodegradable.   |
| Bio accumulative potential    | No data available.                                       |
| Mobility in soil              | No data available.                                       |
| Other advert effects          | No data available.                                       |

---

#### SECTION 13. DISPOSAL CONSIDERATIONS

DISPOSE OF THIS PRODUCT IN ACCORDANCE WITH LOCAL, PROVINCAL AND FEDERAL REGULATIONS. Check with local municipal authority to ensure compliance.

Containers should be empty and thoroughly rinsed before disposal.

---

#### SECTION 14. TRANSPORT INFORMATION

|                                |   |
|--------------------------------|---|
| Canadian TDG UN Number         | 2319  |
| Shipping Name                  | Terpene hydrocarbons NOS                        |
| Transport Hazard Classes       | 3 Flammable                                     |
| Packing Group                  | 111   |
| Transport Document Description | UN 2319 terpene hydrocarbons NOS Class 3 PG 111 |

# Safety Data Sheet

**Diamonene**

Version 1.0

Revision Date: 09/11/2014

---

Canadian Environmental Protection Act (CEPA) Information: all ingredients listed appear on domestic substances list (DSL)

---

## SECTION 15. OTHER INFORMATION

Prepared by

Bebbington Industries, January 2018

### DISCLAIMER:

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. BEBBINGTON INDUSTRIES SHALL NOT BE HELD LIABLE FOR ANY DAMAGE OR INJURY RESULTING FROM HANDLING OF, OR FROM CONTACT WITH THE ABOVE PRODUCT. ALL PERSONS USING THIS PRODUCT SHOULD BE TRAINED