

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date 06/04/2015

Reviewed on 06/04/2015

1 Identification

- **Product identifier**
- **Trade name:** d-Limonene
- **Article number:** No other identifiers
- **CAS Number:**
5989-27-5
- **Recommended use and restriction on use**
- **Recommended use:**
Product Component
Cleaner solvent
Degreaser
Solvents
- **Restrictions on use:** See Sections 8 and 10 for further information.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
Interstate Commodities Corp.
117 N. Main Street, Suite 2B
Greenville, SC 29601
864-640-8635
info@icccitrus.com
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 Health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Additional information:**

Repeated exposure may cause skin dryness or cracking.

There are no other hazards not otherwise classified that have been identified.

0 percent of the mixture consists of ingredient(s) of unknown toxicity.

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- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS07 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

d-Limonene

- **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H304 May be fatal if swallowed and enters airways.

- **Precautionary statements**

P210 Keep away from heat, sparks, open flames, and hot surfaces. - No smoking.

P261 Avoid breathing mist, vapors, or spray.

P264 Wash thoroughly after handling.

P280 Wear protective gloves / eye protection / face protection.

P233 Keep container tightly closed.

P301+P310 If swallowed: Immediately call a poison center/doctor.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370+P378 In case of fire: Use foam, powder, or carbon dioxide for extinction.

P362 Take off contaminated clothing and wash before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P331 Do NOT induce vomiting.

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

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Additional information:**

Rags, steel wool, or waste soaked with product may spontaneously ignite if improperly handled or discarded.

- **Hazard description:**

- **WHMIS-symbols:**

As of 11 February 2015, the current WHMIS system is being replaced by the GHS system. This is the classification under the older system.

B3 - Combustible liquid

D2B - Toxic material causing other toxic effects



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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
5989-27-5 d-Limonene
- **Additional information:** Product contains >94.0% d-Limonene.
- **Dangerous components:** None in reportable quantities.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.
- **After inhalation:**
Supply fresh air; consult doctor in case of complaints.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
Allergic reactions
Irritant to skin and mucous membranes.

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Dizziness
Breathing difficulty
Gastric or intestinal disorders

- **Danger**

Danger of impaired breathing.
Repeated exposure may cause skin dryness or cracking.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Danger of pulmonary edema.
Danger of pneumonia.

- **Indication of any immediate medical attention and special treatment needed**

If swallowed, gastric irrigation with added, activated carbon.
If swallowed or in case of vomiting, danger of entering the lungs.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
Contains d-limonene. May produce an allergic reaction.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water stream.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Eliminate all ignition sources if safe to do so.
Cool endangered receptacles with water fog.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Keep away from ignition sources.
Protect from heat.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Prevent from spreading (e.g. by damming-in or oil barriers).
- **Methods and material for containment and cleaning up:**
Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.

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- **Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Prevent formation of aerosols.

Use only in well ventilated areas.

Avoid splashes or spray in enclosed areas.

Keep away from heat and direct sunlight.

Rags, metal wools / cuttings / shavings and waste papers soaked with product must be placed in a sealed metal container rated for flammable waste.

- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Flammable gas-air mixtures may be formed in empty receptacles.

The product forms flammable fumes when heated.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Provide ventilation for receptacles.

Avoid storage near extreme heat, ignition sources or open flame.

- **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from oxidizing agents.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.

Protect from heat and direct sunlight.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

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Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- **Engineering controls:** No further relevant information available.
- **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.
NIOSH or EN approved organic vapor respirator equipped with a dust/mist prefilter should be used.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
Nitrile rubber, NBR
Neoprene gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Safety glasses

- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
No further relevant information available.
- **Risk management measures**
See Section 7 for additional information.
No further relevant information available.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Clear to straw color.
Odor:	Citrus.

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- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
 - Melting point/Melting range:** -96 °C (-141 °F)
 - Boiling point/Boiling range:** 176 °C (349 °F)
- **Flash point:** 46 °C (115 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Auto-ignition temperature:** 237 °C (459 °F)
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
- **Explosion limits:**
 - Lower:** 0.7 Vol %
 - Upper:** 6.1 Vol %
- **Vapor pressure at 20 °C (68 °F):** 2.3 hPa (2 mm Hg)
- **Density at 20 °C (68 °F):** 0.84 g/cm³ (7.01 lbs/gal)
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Flammable.
Used empty containers may contain product gases which form explosive mixtures with air.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.
Toxic fumes may be released if heated above the decomposition point.
- **Conditions to avoid**
Keep ignition sources away - Do not smoke.

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Store away from oxidizing agents.

- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

5989-27-5 d-Limonene

Oral	LD50	4400 mg/kg (rat)
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- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:**

Not classified as a primary irritant.

Slight irritant effect on eyes.

- **Sensitization:**

Sensitizing effect through inhalation is possible with prolonged exposure.

Sensitization possible through skin contact.

- **Subacute to chronic toxicity:**

Inhalation of concentrated vapors as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

May be fatal if swallowed and enters airways.

- **Additional toxicological information:**

Irritant

Danger through skin absorption.

Toxic and/or corrosive effects may be delayed up to 24 hours.

- **Carcinogenic categories**

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

- **Probable Routes of Exposure**

Inhalation.

Eye contact.

Skin contact.

Ingestion.

- **Acute effects (acute toxicity, irritation and corrosivity):**

Irritating to skin.

May be fatal if swallowed and enters airways.

- **Repeated Dose Toxicity:** Repeated exposures may result in skin and/or respiratory sensitivity.

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**
The material is harmful to the environment.
Toxic for aquatic organisms
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
Avoid transfer into the environment.
Very toxic for aquatic organisms
Also poisonous for fish and plankton in water bodies.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.
Can be reused after reprocessing.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT** UN2319
Reclassified as combustible under US DOT regulations.
Labeling is only required for single packages 119 US gal / 450 L to include Combustible symbol and Proper Shipping Name.
- **ADR, IMDG, IATA** UN2319

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- **UN proper shipping name**



Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 5 L (1.3 gal).

- **DOT**
- **ADR**

Terpene hydrocarbons, n.o.s.

2319 TERPENE HYDROCARBONS, N.O.S., ENVIRONMENTALLY HAZARDOUS

- **IMDG**

TERPENE HYDROCARBONS, N.O.S., MARINE POLLUTANT

- **IATA**

TERPENE HYDROCARBONS, N.O.S.

- **Transport hazard class(es)**

- **DOT**



- **Class**
- **Label**

3 Flammable liquids

3

- **ADR**



- **Class**
- **Label**

3 (F1) Flammable liquids

3

- **IMDG**



- **Class**
- **Label**

3 Flammable liquids

3

- **IATA**



- **Class**
- **Label**

3 Flammable liquids

3

- **Packing group**

- **DOT, ADR, IMDG, IATA**

III

- **Environmental hazards:**

- **Marine pollutant:**

Yes

Symbol (fish and tree)

Symbol (fish and tree)

- **Special marking (ADR):**

Warning: Flammable liquids

- **Special precautions for user**

- **Danger code (Kemler):**

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- **EMS Number:** F-E,S-D
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations** On passenger aircraft/rail: 60 L
On cargo aircraft only: 220 L

- **ADR**
- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

- **IMDG**
- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **UN "Model Regulation":** UN2319, Terpene hydrocarbons, n.o.s., ENVIRONMENTALLY HAZARDOUS, 3, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Proposition 65 (California)**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Chemicals known to cause developmental toxicity:**

Substance is not listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

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· IARC (International Agency for Research on Cancer)		
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· TLV (Threshold Limit Value established by ACGIH)		
Substance is not listed.		

· NIOSH-Ca (National Institute for Occupational Safety and Health)		
Substance is not listed.		

· State Right to Know Listings		
Substance is not listed.		

· Canadian substance listings:		
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· Canadian Domestic Substances List (DSL)		
Substance is listed.		

· Canadian Ingredient Disclosure list (limit 0.1%)		
Substance is not listed.		

· Canadian Ingredient Disclosure list (limit 1%)		
5989-27-5	(R)-p-mentha-1,8-diene	

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.		
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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 06/04/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

· **Sources**

SDS Prepared by:

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