SDS 2968 d-Limonene

Date of Issue/re-issue: 19/02/2019 Expiry: 01/03/2024

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name **ECP Limited**

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Product	d-Limonene				**Code**	2968
CAS#	**HSNO#**	**UN #**	**DG Class/es**	**Packing group #**	**Tracking?**	**Handlers Certificate?**
5989-54-8	HSR005315	2052	3	III	No	No

Recommended use: Laboratory Investigations

2. Hazards identification

2.1 GHS Classification

Flammable Liquids (Category C)

Acute toxicity, Oral (Category E)

Skin irritation (Category A)

Skin sensitization (Category B)

Aquatic toxicity (Acute or Chronic) (Category A)

2.2 GHS Label elements, including precautionary statements

Pictogram  Signal word **Warning**

Hazard statement(s)

H226 Flammable liquid and vapour.

H303 May be harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

Precautionary statement(s)

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - 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.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

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

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P333 + P313 If skin irritation or rash occurs: 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.
P391 Collect spillage.
Storage
P403 + P235 Store in a well-ventilated place. Keep cool.
Disposal
P501 Dispose of contents/container to an approved waste disposal plant.
2.3 Other hazards
None

3. Composition/information on ingredients
3.1 Substances
Synonyms : (−)-Carvene
(S)-4-Isopropenyl-1-methyl cyclohexene
(−)-p-Mentha-1,8-diene
Formula: $C_{10}H_{16}$
Molecular Weight: 136.23 g/mol

Component	Concentration
L-Limonene	
CAS No. 5989-54-8	-

4. First aid measures
4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. Firefighting measures
5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Carbon oxides
5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
5.4 Further information
Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. 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. Light sensitive. Store under inert gas. Air sensitive.

7.3 Specific end uses

No data available

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits Table

Component	**CAS No**	**Value**	**Control parameters**	**Basis**

8.2 Exposure controls

Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination or respirator cartridges as a backup to engineering controls. If the

respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: clear, liquid

Colour: light yellow

b) Odour

No data available

c) Odour Threshold

No data available

d) pH

No data available

e) Melting point/freezing point

No data available

f) Initial boiling point and boiling range

175 - 177 °C - lit.

g) Flash point

43 °C - closed cup

h) Evaporation rate

No data available

i) Flammability (solid, gas)

No data available

j) Upper/lower flammability or explosive limits

Upper explosion limit: 6.1 %(V)

Lower explosion limit: 0.7 %(V)

k) Vapour pressure

< 4 hPa at 14.4 °C

l) Vapour density

4.7 - (Air = 1.0)

m) Relative density

0.844 g/cm^3 at 25 °C

n) Water solubility

No data available

o) Partition coefficient: n-octanol/water

No data available

p) Autoignition temperature

No data available

q) Decomposition temperature

No data available

r) Viscosity

No data available

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid
Heat, flames and sparks.
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
Other decomposition products
No data available

11. Toxicological information
11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - rat - 5,000 mg/kg
LD50 Dermal - rabbit - > 5,000 mg/kg
Skin corrosion/irritation
Skin - rabbit - Skin irritation - 24 h
Serious eye damage/eye irritation
No data available
Respiratory or skin sensitization
May cause allergic skin reaction.
Germ cell mutagenicity
No data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
Potential health effects
Inhalation
May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion
May be harmful if swallowed.
Skin
May be harmful if absorbed through skin. Causes skin irritation.
Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Additional Information
RTECS: OS8350000

12. Ecological information
12.1 Toxicity
No data available
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential

No data available
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
No data available
12.6 Other adverse effects
Very toxic to aquatic life.

13. Disposal considerations
13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

14. Transport Information Table

		ADR/RID – European packaging certification	**IMDG International Maritime Dangerous Goods Code**	**IATA – DGR International Air Travel Association – Dangerous Goods Regulations**
14.1	**UN Number**	2052	2052	2052
14.2	**UN Proper Shipping name**	DIPENTENE	DIPENTENE	Dipentene
14.3	**Transport Hazard Class**	3	3	3
14.4	**Packaging group**	III	III	III
14.5	**Environmental Hazards**	Yes	No	No
14.6	**Special precautions for user**	No data available		

15. Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulatory information
HSNO Approval Code: HSR005315
HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006
Tracking Required: not required
Approved Handler Cert.: not required

16. Disclaimer
The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any

third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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