# Material Safety Data Sheet

# Dipentene

## Section 1 - Chemical Product and Company Identification

Synonyms : D-Limonene, p-Mentha-1,8-diene

Molecular Weight : 136.26 g/mol

Chemical Formula : $C_{10}H_{16}$

Company Identification : Tradeasia International Pte. Limited

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## Section 2 - Composition and Information on Ingredients

Composition:

| Chemical Name | CAS No | Purity, % |
|---|---|---|
| Dipentene | 138-86-3 | min. 95.0 |

## Section 3 – Hazards Identification

**3.1 Classification of the substance according to GHS**

**Flammable liquids (Category 3)**

H226: Flammable liquid and vapour

**Skin irritation (Category 2)**

H315: Causes skin irritation

**Skin sensitization (Category 1)**

H317: May cause an allergic skin reaction

**Acute aquatic toxicity (Category 1)**

H400: Very toxic to aquatic life

**Chronic aquatic toxicity (Category 1)**

H410: Very toxic to aquatic life with long lasting effects

### 3.2. GHS Label elements, including precautionary statements

| | | |
|---|---|---|
|  Warning GHS07: Harmful |  GHS02: Flammable |  Warning GHS09: Environmental hazards |

Prevention

P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P273: Avoid release to the environment.

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

Response

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

### 3.3. Other hazards which do not result in classification

Not applicable.

## Section 4 – First-Aid Measures

### 4.1. Description of first aid mesaures

**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**

Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**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

Irritant effects, allergic reactions

CNS disorders

### 4.3. Indication of any immediate medical attention and special treatment needed

N.A.

## Section 5 – Fire Fighting Measures

### 5.1. Suitable Extinguishing media

Carbon dioxide (CO2), foam, dry powder

### 5.2. Specific hazards arising from the chemical

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3. Special protective actions for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Fire-fighting/Further advice

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6 – Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2. Environmental precautions

Do not let product enter drains. Risk of explosion.

### 6.3. Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb® ). Dispose of properly. Clean up affected area.

### 6.4. Reference to other sections

For disposal see section 13.

## Section 7 – Handling and Storage

### 7.1. Precautions for safe handling

Advice on safe handling

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### 7.2. Conditions for safe storage, including any incompatibilities

- Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
- Protected from light.
- See product label for recommended storage temperature.

### 7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## Section 8 – Exposure Controls/Personal Protection

### 8.1. Control parameters

N.A.

### 8.2. Appropriate engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### 8.3. Individual protection measures, such as personal protective equipment (PPE)

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

**Eye/face protection**

Safety glasses

**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.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Full contact
Material: Nitrile rubber
Minimum layer thickness: 0,4 mm
Break through time: 480 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 30 min
Material tested:Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de
test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**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**

Required when vapours/aerosols are generated.
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The user has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## Section 9 – Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

Appearance : Form: Liquid

Odour : of lemons

Odour threshold : N.A.

pH @ 20°C : N.A.

Melting point : -89°C

Boiling point : 173 - 175 °C - lit

Flash point : 43°C – closed cup

Evaporation rate : N.A.

Flammability : N.A.

Upper/lower flammability or explosive limits : Upper: 0.7%(V), Lower: 6.1% (V)

Vapour pressure : 2.1 hPa (at 20°C)

Vapour density : N.A.

Relative density : 0.84 g/mL at 20°C

Solubility in water : in soluble at 20°C

Partition coefficient: n-octanol/water : log Pow: 4,57

Auto-ignition temperature : N.A.

Decomposition temperature : N.A.

Viscosity : N.A.

**9.2. Other information**

Ignition temperature : 255°C

## Section 10 – Stability and Reactivity

**10.1. Reactivity**

Formation of peroxides possible.

Vapour/air-mixtures are explosive at intense warming.

### 10.2. Chemical stability

Sensitivity to light.

Sensitivity to air.

### 10.3. Possibility of hazardous reactions

Violent reactions possible with strong oxidizing agents and acids.

### 10.4. Conditions to avoid:

Heat, flames and sparks.

### 10.5. Incompatible materials

N.A.

### 10.6. Hazardous decomposition products

Peroxides

## Section 11 – Toxicological Information

### 11.1. Information on likely routes of exposure

Inhalation: No data available.

Eye irritation: Possible damages: slight irritation

Skin irritation: Causes skin irritation.

Ingestion: No data available.

### 11.2. Information on toxicological effects

Symptoms: No information available.

### 11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity: No information available.

### 11.4. Numerical measures of toxicity – Product Information

LD50 Oral – Rat – 5.300mg/kg

### 11.5. Additional Information

RTECS: OS8060000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Section 12 – Ecological Information

**12.1. Toxicity**

Toxicity to fish

LC50 Oncorhynchus mykiss (rainbow trout): 80 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

EC50 Daphnia magna (Water flea): 17 mg/l; 48 h (ECOTOX Database)

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

Partition coefficient: n-octanol/water log Pow: 4,57

(experimental)

(Lit.) Potential bioaccumulation

**12.4. Mobility in soil**

No information available. (p-Mentha-1,3-diene)

**12.5. Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6. Other adverse effects**

Discharge into the environment must be avoided.

## Section 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.

## Section 14 – Transport Information

**14.1. UN number** : UN2052

**14.2. UN proper shipping name** : DIPENTENE.

**14.3. Transport of hazard classes** : 3

**14.4. Packing group** : III

**14.5. Environmental Hazards:** Yes

**14.6. Incompatible materials:** N.A.

## Section 15 – Regulatory Information

### 15.1. International Inventories

All of the components in the product are on the following Inventory lists:

- TSCA (United States)
- Canada (DSL/NDSL)
- Europe (EINECS/ELINCS/NLP)
- Australia (AICS)
- South Korea (KECL)
- China (IECSC)
- ENCS (Japan)
- Philippines (PICCS)

### 15.2. US Federal Regulations

#### 15.2.1. SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### 15.2.2. SARA 311/312 Hazard Categories

Acute health hazard: Yes

Chronic Health Hazard: No

Fire hazard: Yes

Sudden release of pressure hazard: No

Reactive hazard: No

#### 15.2.3. CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

### 15.3 US State Regulations

California Proposition 65: This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations: This product does not contain any substances regulated by state right-to-know regulations.

## Section 16 : Additional Information

**References:** Not available.

**Other Special Considerations:** Not available.

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