

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : γ -Terpinene
 Product Number : 86476
 Brand : Fluka
 Company : Sigma-Aldrich Canada, Ltd
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1-Isopropyl-4-methyl-1,4-cyclohexadiene
 p-Mentha-1,4-diene
 Formula : C₁₀H₁₆
 Molecular Weight : 136.23 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
p-Mentha-1,4-diene			
99-85-4	202-794-6	-	-

3. HAZARDS IDENTIFICATION

WHMIS Classification
 B3 Combustible Liquid
 D2B
 Combustible Liquid
 Moderate skin irritant
 Moderate respiratory irritant
 Moderate eye irritant

HMIS Classification
 Health Hazard: 2
 Flammability: 2
 Physical hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Ingestion May be harmful if swallowed.

4. FIRST AID MEASURES

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General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

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.

5. FIRE-FIGHTING MEASURES**Flammable properties**

Flash point 50 °C (122 °F) - closed cup

Ignition temperature no data available

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

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

Environmental precautions

Do not let product enter drains.

Methods for 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). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**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.

Storage

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

Recommended storage temperature: 2 - 8 °C

Store under inert gas. Air sensitive.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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 such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

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

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form clear, liquid

Colour colourless

Safety data

pH no data available

Melting point no data available

Boiling point 182 °C (360 °F)

Flash point 50 °C (122 °F) - closed cup

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure 0.9 hPa (0.7 mmHg) at 20 °C (68 °F)

Density 0.85 g/mL at 25 °C (77 °F)

Water solubility no data available

Relative vapour density 4.7

- (Air = 1.0)

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

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Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Hazardous reactions

Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 3,650 mg/kg

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h

Sensitisation

no data available

Chronic exposure

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.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Ingestion May be harmful if swallowed.

Additional Information

RTECS: OS8070000

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

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Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 2319 Class: 3 Packing group: III

Proper shipping name: Terpene hydrocarbons, n.o.s.

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 2319 Class: 3 Packing group: III EMS-No: F-E, S-D

Proper shipping name: TERPENE HYDROCARBONS, N.O.S.

Marine pollutant: No

IATA

UN-Number: 2319 Class: 3 Packing group: III

Proper shipping name: Terpene hydrocarbons n.o.s.

15. REGULATORY INFORMATION**DSL Status**

All components of this product are on the Canadian DSL list.

WHMIS Classification

B3 Combustible Liquid

D2B

Combustible Liquid

Moderate skin irritant

Moderate respiratory irritant

Moderate eye irritant

16. OTHER INFORMATION**Further information**

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