

SAFETY DATA SHEET

Version: v1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Terpinolene
Product Number : T435004
Brand : aladdin
CAS-No. : 586-62-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquid (Class 3), H226

Acute toxicity, oral (Category 5), H303

Skin allergy (Category 1), H317

Inhalation hazard (Category 1), H304

Acute (short-term) aquatic hazard (Category 1), H400

Long term aquatic hazards (Category 1), H410

2.2 GHS Label elements, including precautionary statements

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Pictogram



Danger

Signal word

Hazard statement(s)

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P210	Keep away from heat, hot surface, 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/vapors/spray.
P264	Wash hands [and ...] 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.
P321	Specific treatment (see ... on this label).
P331	Do NOT induce vomiting.
P391	Collect spillage.
P302+P352	IF ON SKIN: wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or shower].
P333+P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use ... to extinguish.
P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.
P301+P316	IF SWALLOWED: Get emergency medical help immediately.
P332+P317	If skin irritation occurs: Get medical help.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

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SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: 4-Isopropylidene-1-methylcyclohexene;p-Menth-1,4(8)-diene;p-Meth-1-en-8-yl-formate
Formula	: C10H16
Molecular weight	: 136.23
CAS No.	: 586-62-9
EC-NO.	: 209-578-0

Component	Classification	Concentration
Terpinolene	no data available	≥90%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

In case of skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxide Flammable Vapor is heavier than air and can therefore spread across the ground. Under rapid heating, it forms an explosive mixture with air Hazardous gases or vapors may be generated when a fire occurs

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Operators should be specially trained and strictly abide by the operating procedures. Operation and disposal should be carried out in a place with local ventilation or general ventilation facilities. Avoid eye and skin contact and avoid breathing vapor. See Section 8 for personal protective measures. Keep away from fire and heat sources, and smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. If canning is required, the flow rate should be controlled, and there should be a grounding device to prevent the accumulation of static electricity. Avoid contact with incompatible substances such as oxidizing agents (see section 10 for incompatible substances). When handling, it should be lightly loaded and unloaded to prevent damage to packaging and containers. Empty containers may be harmful residues. Wash hands after use and prohibit eating or drinking in the workplace. Equipped with the corresponding variety and quantity of fire fighting equipment and leakage emer

7.2 Conditions for safe storage, including any incompatibilities

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Store in a cool and ventilated warehouse; Avoid light; Fill with argon.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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 such as NIOSH (US) or EN166(EU).

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 Regulation (EU)2016/425 and the standard EN 374 derived from it.

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 fullface particle respirator type N100 (US) or type P3 (EN 143) 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).

Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	form: liquid color: Colorless to 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

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f) Initial boiling point and boiling range	185°C
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Strong heating

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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Acute toxicity

LD50 oral - rat - 3740 mg/kg

(OECD Test Guide 401)

Inhalation: No data available

LD50 transcutaneous - rabbit - >4300 mg/kg

(OECD Test Guide 402)

Skin corrosion/irritation

Skin in vitro experimental study Result: No skin irritation - 15 minutes (OECD Test Guide 439)

Serious eye damage/eye irritation

Eyes - Rabbit Result: No eye irritation - 24 hours (OECD Test Guide 405)

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - mouse Result: Positive (OECD Test Guide 429)

Germ cell mutagenicity

Test type: Ames test Test system: Salmonella Typhimurium Metabolic activation: with or without metabolic activation

Method: OECD Test Guideline 471 Result: Negative Test type: Mutability (mammalian cell test): Micronucleus positive Test system: human lymphocytes Metabolic activation: No metabolic activation Method: OECD Test Guideline 487 Result: Negative

Carcinogenicity

no data available

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

Additional Information

Registration of toxic effects of chemical substances: WZ6870000

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish semi static test LC50 - Danio rerio (zebrafish) - 0.805 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to Daphnia and other aquatic invertebrates

Semistatic test EC50 - Daphnia magna (Daphnia magna) - 0.634 mg/l - 48 hours

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(OECD Test Guide 202)

Static toxicity test for algae EC10 - Pseudokirchneriella subcapitata (green algae) - 0.273 mg/l - 72 h

(OECD Test Guide 201)

Static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 0.692 mg/l - 72 h

(OECD Test Guide 201)

Static toxicity test for bacteria EC50 - activated sludge - 46 mg/l - 3 h

(OECD Test Guide 209)

12.2 Persistence and degradability

Aerobic - Exposure time 28 days Results: 81% - rapidly biodegradable. (OECD Test Guide 301D)

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

no data available

SECTION 13:

13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur.

Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: 2541

Packing group: III

Class: 3

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Proper shipping name: TERPINOLENE	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: yes		
IMDG		
UN number: 2541	Packing group: III	EMS-No: no data available
Proper shipping name: TERPINOLENE		
IATA		
UN number: 2541	Packing group: III	Class: 3
Proper shipping name: TERPINOLENE		

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

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