



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION:

PRODUCT CODE A0216
PRODUCT NAME TERPINEN-4-OL
SUPPLIER Shanghai M & U International Trade Co., Ltd.
Rm 1717, No 598 North NuJiang Road
200333 Shanghai, China
+86-21-32515501 32515502
sales@mu-intel.com

FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)

2. HAZARD IDENTIFICATION:

Emergency Overview

OSHA Hazards

Combustible Liquid, Harmful by ingestion, Irritant

GHS Classification

Flammable liquids (Category 4)
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H227 Combustible liquid
H302 Harmful if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary statement(s)

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray

P305 P351 P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

HMIS Classification

Health hazard 1
Flammability 1
Physical hazards 1

NFPA Rating

Health hazard 1
Fire 1
Reactivity Hazard 0

Potential Health Effects

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

3. COMPOSITION AND INFORMATION ON INGREDIENTS:

SYNONYM	p-Menth-1-en-4-ol
Formula	C10 H18 O
Molecular Weight	154.25 g/mol
CAS-No	EC-No
562-74-3	209-235-5

4. FIRST-AID GUIDE:

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 GUIDE:

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 firefighters

Wear self contained breathing apparatus for firefighting if necessary

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE GUIDE:

Personal precautions

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

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains

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 according to local regulations (see section 13). Keep in suitable, closed containers for disposal

7. HANDLING AND STORAGE:

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 buildup of electrostatic charge

Conditions for safe storage

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

8. EXPOSURE AND 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. 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

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Skin and body protection

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

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	LIQUID
Color	COLORLESS TO PALE YELLOW

Safety data

pH	no data available
Melting point (°C)	no data available
Boiling point (°C)	212
Flash point (°F)	Closed cup >200
Ignition temperature	no data available
Auto ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor pressure (mm Hg @20 °C)	0.4
Density @25 °C	0.932
Water solubility	INSOLUBLE
Partition coefficient:	

n-octanol/ water	no data available
Relative vapor density	5
Odor	PEPPERY
Odor Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY:

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight

Materials to avoid

Strong oxidizing agents Strong oxidizing agents, Acid chlorides, Acid anhydrides

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION:

Acute toxicity

Oral LD50

LD50 Oral - rat - 1,300 mg/kg

Inhalation LC50

No data available

Dermal LD50

No data available

Other information on acute toxicity

LD50 Intramuscular - rat - 1,500 mg/kg

Remarks: Kidney, Urethra, and Bladder: Urine volume increased

Skin corrosion/irritation

Skin - rabbit -

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC

No components of this product present at levels greater than or equal to 0.1% is identified as probable. Possible or confirmed human carcinogen by IARC

ACGIH

No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH

NTP

No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP

OSHA

No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

Reproductive toxicity

No data available

Teratogenicity

No data available

Potential health effects

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

Signs and Symptoms of Exposure

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

Synergistic effects

No data available

Additional Information

RTECS: OT0175110

12. ECOLOGICAL INFORMATION:

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL RECOMMENDATIONS:

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material

Contaminated packaging

Dispose of as unused product

14. TRANSPORTATION INFORMATION:

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION:

OSHA Hazards

Combustible Liquid, Harmful by ingestion, Irritant

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act

Pennsylvania Right to Know Components

p-Menth-1-en-4-ol	CAS-No
	562-74-3

New Jersey Right to Know Components

p-Menth-1-en-4-ol	CAS-No
	562-74-3

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm

16. OTHER INFORMATION:

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance