

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Irritating to skin, eyes, and the respiratory system. Combustible material; avoid heat and sources of ignition.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>alpha-Terpineol</b>		
Catalog Number	T0022	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	3-Cyclohexene-1-methanol, alpha,alpha, 4-trimethyl- (9 Cl)		
Chemical Formula	CH <sub>3</sub> C <sub>6</sub> H <sub>8</sub> C(CH <sub>3</sub> ) <sub>2</sub> OH		
CAS Number	98-55-5	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
alpha-Terpineol	98-55-5	Min. 80.0 (GC)	Not available.	Rat LD <sub>50</sub> (oral) 5170mg/kg Mouse LD <sub>50</sub> (intramuscular) 2gm/kg Mouse LD <sub>50</sub> (oral) 2830mg/kg

## Section III. Hazards Identification

Acute Health Effects	Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

## Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	Not available.
Flash Points	89°C (192.2°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	Combustible material. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions  
 If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.

**Section VII. Handling and Storage**

Handling and Storage Information  
 Irritating material. Combustible material.  
 Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. Do not breathe dust.  
 Always store away from incompatible compounds such as oxidizing agents.

**Section VIII. Exposure Controls/Personal Protection**

Engineering Controls  
 Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection  
 Splash goggles. Lab coat. Dust respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



Exposure Limits  
 Not available.

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Solid. (White crystalline powder.)	Solubility	Soluble in propylene glycol. Very soluble in alcohol, ether.
Specific Gravity	0.94 (water=1)		
Molecular Weight	154.25	Partition Coefficient	Not available.
Boiling Point	217 to 218°C (422.6 to 424.4°F)	Vapor Pressure	Not applicable.
Melting Point	31 to 35°C (87.8 to 95°F)	Vapor Density	0.935(Air = 1)
Refractive Index	1.4820 @ 20°C	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Peach, floral, sweet

**Section X. Stability and Reactivity Data**

Stability  
 This material is stable if stored under proper conditions. (See Section VII for instructions)

Conditions of Instability  
 Avoid excessive heat and light.

Incompatibilities  
 Reactive with strong oxidizing agents, acid chlorides, and acid anhydrides.

**Section XI. Toxicological Information**

RTECS Number	WZ6700000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LD <sub>50</sub> (oral) 5170mg/kg Mouse LD <sub>50</sub> (intramuscular) 2gm/kg Mouse LD <sub>50</sub> (oral) 2830mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate alpha-Terpineol may be released to the environment as a natural product; it is a volatile component of essential oils, nectarines, grapes and cranberry juice. Human release to the environment includes waste streams from wood pulping industries, petrochemical companies and waste disposal sites. If released to the atmosphere, vapor-phase alpha-terpineol is expected to degrade by reaction with photochemically produced hydroxyl radicals (estimated half-life of 4 hrs). Based on its relatively high water solubility, long distance transport in water systems may be significant. If released to soil, alpha-terpineol is expected to leach significantly (estimated Koc of 67). One biological treatment simulation exhibited biodegradation; although this study is not specific to soil media, it suggests that biodegradation in soil may be moderately fast. If released to water, biodegradation may be important; however, data are limited. Volatilization half-lives of 19 and 298 days have been estimated for a model river (one meter deep) and a model environmental pond, respectively. Hydrolysis, adsorption to sediment and bioconcentration in aquatic organisms are not expected to be environmentally significant transport processes in aquatic systems. Exposure to the general population is expected to occur through consumption of contaminated drinking water and fruits in which it is contained. In occupational settings, exposure to alpha-terpineol may occur through inhalation of vapors and through eye and skin contact.

**Section XIII. Disposal Considerations**

Waste Disposal Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

**Section XIV. Transport Information**

DOT Classification Not a DOT controlled material (United States).

PIN Number Not applicable.

Proper Shipping Name Not applicable.

Packing Group (PG) Not applicable.

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA) This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada) CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).  
On DSL.

EINECS Number (EEC) 219-448-5

EEC Risk Statements R36/37/38- Irritating to eyes, respiratory system and skin.

Japanese Regulatory Data ENCS No. 3-2323X

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 6/29/2009.**  
**Printed 6/29/2009.**

**Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.