

\*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*

Alpha-Terpineol, 99%  
 ACROS97439

\*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MSDS Name: Alpha-Terpineol, 99%  
 Catalog Numbers: AC301610000, AC301610250, AC301615000

Synonyms: P-Menth-1-en-8-ol.  
 Company Identification (Europe): Acros Organics N.V.  
 Janssen Pharmaceuticaal 3a  
 2440 Geel, Belgium  
 Company Identification (USA): Acros Organics  
 One Reagent Lane  
 Fairlawn, NJ 07410

For information in North America, call: 800-ACROS-01  
 For information in Europe, call: 0032(0) 14575211  
 For emergencies in the US, call CHEMTREC: 800-424-9300  
 For emergencies in Europe, call: 0032(0) 14575299

\*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

CAS#	Chemical Name	%	EINECS#
98-55-5	Alpha-terpineol	99	202-680-6

\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 90 deg C.  
 Caution: Combustible liquid and vapor. May cause central nervous system depression. May cause eye and skin irritation. May cause respiratory and digestive tract irritation.  
 Target Organs: Central nervous system.

Potential Health Effects

Eye: May cause eye irritation. May cause chemical conjunctivitis and corneal damage.

Skin: May cause irritation and dermatitis. May cause cyanosis of the extremities.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause headache, weakness, ataxia, delirium, fever, dehydration, and hypothermia.

Inhalation: May cause respiratory tract irritation. Aspiration may lead to pulmonary edema. Inhalation at high concentrations may cause CNS depression and asphyxiation.

Chronic: No information found.

\*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. DO NOT use mouth-to-mouth respiration.

Notes to Physician: Treat symptomatically and supportively.

\*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Containers may explode in the heat of a fire. Combustible Liquid. Vapors may be heavier than air. They can spread

along the ground and collect in low or confined areas.  
 Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective.

\*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material, (e.g., vermiculite, dry sand or earth), then place into a chemical waste container. Do not use combustible materials such as saw dust. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

\*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

\*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Alpha-terpineol	none listed	none listed	none listed

OSHA Vacated PELs:  
 Alpha-terpineol:  
 No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

\*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Physical State: Liquid  
 Appearance: colorless liquid  
 Odor: Turpentine odor.  
 pH: Not available.  
 Vapor Pressure: 1.0 mm Hg @52.8  
 Vapor Density: >1.0  
 Evaporation Rate: Not available.  
 Viscosity: Not available.  
 Boiling Point: 214 - 224 deg C @ 760.00mmHg  
 Freezing/Melting Point: 31 deg C  
 Autoignition Temperature: Not available.  
 Flash Point: 90 deg C ( 194.00 deg F)  
 NFPA Rating: (est.) Health: 1; Flammability: 2; Reactivity: 0  
 Explosion Limits, Lower: Not available.  
 Upper: Not available.

Decomposition Temperature:  
Solubility: slightly soluble in water  
Specific Gravity/Density: .9330g/cm3  
Molecular Formula: C10H18O  
Molecular Weight: 154.25

\*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Chemical Stability:  
Stable under normal temperatures and pressures.  
Conditions to Avoid:  
Incompatible materials, ignition sources, excess heat.  
Incompatibilities with Other Materials:  
Strong oxidizing agents.  
Hazardous Decomposition Products:  
Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.  
Hazardous Polymerization: Has not been reported

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#:  
CAS# 98-55-5: W26700000  
LD50/LC50:  
CAS# 98-55-5: Oral, mouse: LD50 = 12080 ug/kg; Oral, rat: LD50 = 5170 mg/kg.  
Carcinogenicity:  
Alpha-terpineol -  
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.  
Epidemiology:  
No information found.  
Teratogenicity:  
No information found.  
Reproductive Effects:  
No information found.  
Neurotoxicity:  
No information found.  
Mutagenicity:  
No information found.  
Other Studies:  
See actual entry in RTECS for complete information.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Ecotoxicity:  
Fish Toxicity: LC50 (96hr) rainbow trout 10-100 mg/l at 10°C static bioassay (GEMS: Graphical Exposure Modelling System 1982, US EPA, Washington, DC). Bioaccumulation: Estimated bioconcentration factor is 8.5-53 (Webb, M. et al Water Res. 1976, 10, 303).  
Other:  
For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.  
US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
RCRA P-Series: None listed.  
RCRA U-Series: None listed.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

US DOT  
No information available  
Canadian TDG  
No information available.

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

US FEDERAL

TSCA  
CAS# 98-55-5 is listed on the TSCA inventory.  
Health & Safety Reporting List  
None of the chemicals are on the Health & Safety Reporting List.  
Chemical Test Rules  
None of the chemicals in this product are under a Chemical Test Rule.  
Section 12b  
None of the chemicals are listed under TSCA Section 12b.  
TSCA Significant New Use Rule  
None of the chemicals in this material have a SNUR under TSCA.  
SARA  
Section 302 (RQ)  
None of the chemicals in this material have an RQ.  
Section 302 (TPQ)  
None of the chemicals in this product have a TPQ.

SARA Codes  
CAS # 98-55-5: acute, flammable.  
Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.  
This material does not contain any Class 1 Ozone depleters.  
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.  
None of the chemicals in this product are listed as Priority Pollutants under the CWA.  
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Alpha-terpineol is not present on state lists from CA, PA, MN, MA, FL, or NJ.  
California No Significant Risk Level:  
None of the chemicals in this product are listed.  
European/International Regulations  
European Labeling in Accordance with EC Directives  
Hazard Symbols: Not available.  
Risk Phrases:  
Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 98-55-5: No information available.

United Kingdom Occupational Exposure Limits

Canada

CAS# 98-55-5 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of B3, D2B.

CAS# 98-55-5 is not listed on Canada's Ingredient Disclosure List.  
Exposure Limits

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

MSDS Creation Date: 11/11/1998 Revision #3 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.