



Product Information (203) 740-3471 / Emergency Assistance CHEMTREC 1-800-424-9300

**MATERIAL SAFETY DATA SHEETS**

**SECTION I**

**PRODUCT AND COMPANY IDENTIFICATION**

**Product: Menthol, L**

**This MSDS is valid for all grades and catalog #'s**

Synonyms: (1alpha,2beta,5alpha)-5-Methyl-2-methylethyl)cyclohexanol; (-)-Menthol; (-)-Menthyl alcohol; 1R,3R,4S)-(-)-Menthol; (1R-(1-alpha, 2-beta,5-alpha))-5-Methyl-2-(1-methylethyl)cyclohexanol; Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2S,5R)-; Cyclohexanol, 5-methyl-2-(methylethyl)-, [1R-(1.alpha.,2.beta.,5.alpha.)]-; (-)-trans-p-Methan-cis-3-ol; 1R-(-)-Menthol; (1R,2S,5R)-(-)-Menthol; (R)-(-)-Menthol; 1R-Menthol; I-Menthol; Levomenthol

Formula: C10H20O

Manufacturer: PHARMCO-AAPER  
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Brookfield, Connecticut 06804, USA  
Phone (203) 740-3471  
Fax (203) 740-3481

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Emergency Contact:  
CHEMTREC 1-800-424-9300

**SECTION II**

**COMPOSITION /INFORMATION ON INGREDIENTS**

% by weight	Material	CAS #	TLV/PE L	LC50/LD50
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100	Menthol, L	2216-51-5; 1490-04-6 (CAS no. for menthol )	Not available	ORAL (LD50): Acute: 330 mg/kg [Mouse]. 800 mg/kg [Cat]. DERMAL (LD50): Acute: >5000 mg/kg [Rabbit]
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**SECTION III**

**HAZARDS IDENTIFICATION**

**Potential Acute Health Effects:** Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

**Potential Chronic Health Effects:**

**CARCINOGENIC EFFECTS:** Not available.

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available.

Repeated or prolonged exposure is not known to aggravate medical condition.

**SECTION IV**

**FIRST AID**

Obtain medical attention for all cases of over-exposure.

**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. Cold water may be used. WARM water MUST be used. Get medical attention.

**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

**Hazardous Skin Contact:** Not available.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Hazardous Inhalation:** Not available.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Hazardous Ingestion:** Not available.

**SECTION V**

**FIRE FIGHTING MEASURES**

**Fire:**

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition temperature: Not available.

Flash point: CLOSED CUP: 87.778°C (190°F).

Flammable limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2).

**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 Extinguishing Media:** SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or water jet.

**Special Information:** When heated to decomposition it emits acrid smoke and irritating fumes. COMBUSTIBLE.

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#### SECTION VI

##### SPILL/ACCIDENTAL RELEASE MEASURES

**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

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#### SECTION VII

##### HANDLING AND STORAGE

**Precautions:** Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

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#### 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. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

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#### SECTION IX

##### PHYSICAL AND CHEMICAL PROPERTIES

**Physical State/Appearance:** Solid. (Crystals solid.)

**Molecular Weight:** 156.3 g/mole

**Odor:** Peppermint like.

**Taste:** Peppermint like.

**Color:** White.

**pH (1% Solution in Water):** Not available.

**Boiling Point:** 212°C (413.6°F)

**Melting Point:** 41°C (105.8°F) - 44 C.

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**Critical Temperature:** Not available.

**Specific Gravity:** 0.89 (Water = 1)

**Vapor Pressure (mm Hg):** Not applicable.

**Vapor Density (Air=1):** 5.38 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Water/Oil Dist. Coefficient:** The product is more soluble in oil; log(oil/water) = 3.3

**Ionicity (in water):** Not available.

**Dispersion Properties:** See solubility in water, diethyl ether, acetone.

**Solubility:** Soluble in diethyl ether, acetone. Very slightly soluble in cold water. Very soluble in alcohol, chloroform, petroleum ether. Freely soluble in glacial acetic acid, liquid petrolatum  
**Solubility in Water:** 456 mg/l @ 25 deg. C.

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#### SECTION X

##### STABILITY/REACTIVITY INFORMATION

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, incompatible materials

**Incompatibilities:** Not available.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Information:** Incompatible with phenol, b-naphthol, resorcinol, thymol, potassium permanganate, chromium trioxide, pyrogallol, butylchloral hydrate, camphor, choral hydrate, exalgine, betanaphthol

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#### SECTION XI

##### TOXICOLOGICAL INFORMATION

**Routes of Entry:** Absorbed through skin. Eye contact.

**Toxicity to Animals:** Acute oral toxicity (LD50): 800 mg/kg [Cat]. Acute dermal toxicity (LD50): >5000 mg/kg [Rabbit].

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

**Special Information on Toxicity to Animals:** Not available.

**Special Information on Chronic Effects/Toxicity on Humans:** Acute Potential Health Effects: Skin: May cause mild skin irritation. It can be absorbed through the skin. Eyes: Causes eye irritation with burning sensation without aftereffect. Inhalation: Inhalation of mist or vapor may cause mild respiratory tract irritation. May affect behavior/central nervous system (ataxia, confusion, irritability). Ingestion: It may affect behavior/central nervous system/peripheral nervous system (vertigo, muscle weakness hallucinations/distorted perceptions, ataxia, headache, convulsions, spastic paralysis). It may cause increased respiration.

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#### SECTION XII

##### ECOLOGICAL INFORMATION

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

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**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Information on Products of Biodegradation:** Not available.

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### SECTION XIII

#### DISPOSAL CONSIDERATIONS

**Waste Disposal:** Recycle to process, if possible. Consult your local or regional authorities.

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### SECTION XIV

#### TRANSPORTATION INFORMATION

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

**UN:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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### SECTION XV

#### REGULATORY INFORMATION

**Federal and State Regulations:** Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312). Components present in this product at a level which could require reporting under the statute are: **NONE**

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual report release of toxic chemicals that appear in 40 CFR 372 (used for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are: **NONE**

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA):** No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

**Other Classifications:**

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC): R36- Irritating to eyes.

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**References:** Not available.

**Other Special Considerations:** Not available.

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determine the conditions of safe use of the product. While this MSDS is based on technical data judged to be reliable, PHARMCO-AAPER assumes not responsibility for the completeness or accuracy of the information contained herein.

The information contained herein is based on data considered to be accurate based on the material as packaged. However, no warranty is expressed regarding the accuracy of these data or the results to be obtained from the use thereof. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It is the user's obligation to