# SAFETY DATA SHEET

**Creation Date** 15-Dec-2011 **Revision Date** 22-Dec-2025 **Revision Number** 4

**This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)**

## 1. Identification

**Product Name** **L-Menthol**

**Cat No. :** **A10474**

**CAS No** 2216-51-5
**Synonyms** L-p-Menthan-3-ol; (1R,2S,5R)-(-)-Menthol

**Recommended Use** Laboratory chemicals.
**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

**Emergency Telephone Number**
For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

## 2. Hazard(s) identification

**Classification**
This chemical is considered hazardous according to [US] OSHA (29 CFR 1910.1200, 2024)

| | |
|---|---|
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |

**Label Elements**

**Signal Word**
Warning

**Hazard Statements**
Causes skin irritation
Causes serious eye irritation

**Precautionary Statements**
**Prevention**
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
**Skin**
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing
**Eyes**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
**Hazards not otherwise classified (HNOC)**
None identified

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**
No information available

## 3. Composition/information on Ingredients

| Component | CAS No | Weight % |
|---|---|---|
| L-Menthol | 2216-51-5 | >95 |

## 4. First-aid measures

**General Advice** If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact** Get medical attention. Wash off immediately with plenty of water for at least 15 minutes.

**Inhalation** Remove to fresh air. Get medical attention. If not breathing, give artificial respiration.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects** None reasonably foreseeable.

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

**Unsuitable Extinguishing Media** Do not use a solid water stream as it may scatter and spread fire

**Flash Point** 94 °C / 201.2 °F

| | |
|---|---|
| **Method -** | No information available |
| **Autoignition Temperature** | No information available |
| **Explosion Limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Sensitivity to Mechanical Impact** | No information available |
| **Sensitivity to Static Discharge** | No information available |

**Specific Hazards Arising from the Chemical**
Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**
Carbon monoxide (CO). Carbon dioxide ($CO_2$).
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 2 | 1 | 0 | N/A |

## 6. Accidental release measures

| | |
|---|---|
| **Personal Precautions** | Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. |
| **Environmental Precautions** | Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information. |
| **Methods for Containment and Clean Up** | Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal. |

## 7. Handling and Storage

| | |
|---|---|
| **Handling** | Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation. |
| **Storage.** | Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong oxidizing agents. |

## 8. Exposure controls / personal protection

| | |
|---|---|
| **Exposure Guidelines** | This product does not contain any hazardous materials with occupational exposure limitsestablished by the region specific regulatory bodies. |
| **Engineering Measures** | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. |

**Personal Protective Equipment**

| | |
|---|---|
| **Eye/face Protection** | Tight sealing safety goggles. |
| **Skin and body protection** | Wear appropriate protective gloves and clothing to prevent skin exposure. |
| **Respiratory Protection** | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| **Recommended Filter type:** | Particulates filter conforming to EN 143. |

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

**Appearance**

| | | | |
|---|---|---|---|
| **Physical State** | Solid | | |
| **Color** | White | | |
| **Odor** | Mint-like | | |
| **Odor Threshold** | No information available | | |
| **Property** | **Values** | **Remarks** | **• Method** |
| **Melting Point/Range** | 41 - 43 °C / 105.8 - 109.4 °F | | |
| **Softening Point** | No data available | | |
| **Boiling Point/Range** | 212 °C / 413.6 °F | @ 760 mmHg | |
| **Flash Point** | 94 °C / 201.2 °F | **Method -** No information available | |
| **Flammability (liquid)** | Not applicable | Solid | |
| **Flammability (solid,gas)** | No information available | | |
| **Explosion Limits** | No data available | | |
| **Autoignition Temperature** | No data available | | |
| **Decomposition Temperature** | No data available | | |
| **pH** | No information available | | |
| **Viscosity** | Not applicable | Solid | |
| **Water Solubility** | Insoluble | | |
| **Solubility in other solvents** | No information available | | |

**Partition Coefficient (n-octanol/water)**

| **Component** | **log Pow** |
|---|---|
| L-Menthol | 3.15 |

| | | |
|---|---|---|
| **Vapor Pressure** | 0.8 mmHg @ 20 °C | |
| **Density / Specific Gravity** | .8900 | |
| **Bulk Density** | No data available | |
| **Vapor Density** | Not applicable | Solid |
| **Particle characteristics** | No data available | |

**Other Information**

| | |
|---|---|
| **Molecular Formula** | C10 H20 O |
| **Molecular Weight** | 156.27 |
| **Explosive Properties** | explosive air/vapour mixtures possible |
| **Evaporation Rate** | Not applicable - Solid |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Incompatible products. Excess heat. Avoid dust formation.

**Incompatible Materials** Strong oxidizing agents

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide ($CO_2$)

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Information on expected route of exposure**

**Inhalation** May cause irritation of respiratory tract.
**Ingestion** Ingestion may cause irritation to mucous membranes.
**Eyes** Irritating to eyes. Non-irritating during normal use. May cause burns. Risk of serious damage to eyes.
**Skin** Irritating to skin.

**Toxicology data for the components**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| L-Menthol | LD50 = 3300 mg/kg ( Rat ) | >5 g/kg ( Rabbit ) | - |

**Toxicologically Synergistic Products** No information available

**(b) skin corrosion/irritation;** Category 2

**(c) serious eye damage/irritation;** Category 2

**(d) respiratory or skin sensitization;**
**Respiratory** Based on available data, the classification criteria are not met
**Skin** Based on available data, the classification criteria are not met

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

**(f) carcinogenicity;** Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| L-Menthol | 2216-51-5 | Not listed | Not listed | Not listed | Not listed | Not listed |

**(g) reproductive toxicity;** Based on available data, the classification criteria are not met

**(h) STOT-single exposure;** Based on available data, the classification criteria are not met

**(i) STOT-repeated exposure;** Based on available data, the classification criteria are not met

**Target Organs** None known.

**(j) aspiration hazard;** Not applicable
Solid

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects,both acute and delayed** No information available.

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Endocrine Disrupting Properties** This product does not contain any known or suspected endocrine disruptors.

## 12. Ecological information

**Ecotoxicity**

Contains a substance which is:. Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| L-Menthol | Not listed | LC50: = 18.9 mg/L, 96h flow-through (Pimephales promelas) | Not listed | 26.6 mg/L 48h |

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility.

| Component | log Pow |
|---|---|
| L-Menthol | 3.15 |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT** Not regulated
**TDG** Not regulated
**IATA** Not regulated
**IMDG/IMO** Not regulated

## 15. Regulatory Information

**United States of America Inventory**

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|---|---|---|---|---|
| L-Menthol | 2216-51-5 | X | ACTIVE | - |

**Legend:**
**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

**TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)** Not applicable

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|
| L-Menthol | 2216-51-5 | X | - | 218-690-9 | X | X | X | X | X | KE-24409 |

**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

**U.S. Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)** Not applicable

**Clean Air Act** Not applicable

**OSHA** - Occupational Safety and Health Administration Not applicable

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations** Not applicable

**U.S. Department of Transportation**
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Slight risk, Grade 1

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|---|---|---|---|
| L-Menthol | 2216-51-5 | - | - | - |

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|---|---|---|---|---|
| L-Menthol | 2216-51-5 | Not applicable | Not applicable | Not applicable | Not applicable |

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**
Not applicable

**Other International Regulations**

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|---|---|---|---|---|
| L-Menthol | 2216-51-5 | Not applicable | Not applicable | Not applicable | Not applicable |

## 16. Other Information

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**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of SDS**