# SAFETY DATA SHEET

**Creation Date** 16-November-2010 **Revision Date** 19-January-2018 **Revision Number** 4

## 1. Identification

**Product Name** **y-Terpinene, stabilized**

**Cat No. :** **AC207500000; AC207500050; AC207501000; AC207505000**

**CAS-No** 99-85-4
**Synonyms** 1-Isopropyl-4-methyl-1,4-cyclohexadiene

**Recommended Use** Laboratory chemicals.
**Uses advised against** Not for food, drug, pesticide or biocidal product use

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

**Company**
**Importer/Distributor**
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

**Manufacturer**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
For information **US** call: 001-800-ACROS-01 / **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**

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|---|
| **Flammable liquids** | Category 3 |
| **Skin Corrosion/irritation** | Category 2 |
| **Aspiration Toxicity** | Category 1 |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
Flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation

**Precautionary Statements**
**Prevention**
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharges
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
**Response**
IF SWALLOWED: Immediately call a POISON CENTER/doctor
IF ON SKIN: Wash with plenty of soap and water
Do NOT induce vomiting
If skin irritation occurs: Get medical advice/attention
Wash contaminated clothing before reuse
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
Fight fire with normal precautions from a reasonable distance
Evacuate area
**Storage**
Store locked up
Store in a well-ventilated place. Keep cool
**Disposal**
Dispose of contents/container to an approved waste disposal plant

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| 1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)- | 99-85-4 | >95 |

## 4. First-aid measures

**General Advice** If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

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

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

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Ingestion** Do not induce vomiting. Obtain medical attention.

**Most important symptoms/effects** Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

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

**Flash Point** 51 °C / 123.8 °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**

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Thermal decomposition can lead to release of irritating gases and vapors. 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 |
|---|---|---|---|
| 3 | 2 | 0 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental Precautions** Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

**Methods for Containment and Clean Up** Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges. Pay attention to flashback. Do not take internally.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep in properly labeled containers. Flammables area.

## 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 that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles
**Hand Protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|---|---|---|---|
| Nitrile rubber<br>Neoprene<br>Natural rubber<br>PVC | See manufacturers recommendations | - | Splash protection only |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls**
No information available.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Colorless |
| **Odor** | No information available |
| **Odor Threshold** | No information available |
| **pH** | No information available |
| **Melting Point/Range** | No data available |
| **Boiling Point/Range** | 182 °C / 359.6 °F @ 760 mmHg |
| **Flash Point** | 51 °C / 123.8 °F |
| **Evaporation Rate** | No information available |
| **Flammability (solid,gas)** | Not applicable |
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Vapor Pressure** | 0.7 mmHg ( 20°C) |
| **Vapor Density** | No information available |
| **Specific Gravity** | 0.847 |
| **Solubility** | Slightly soluble in water < 1% |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | No information available |

| | |
|---|---|
| **Decomposition Temperature** | No information available |
| **Viscosity** | No information available |
| **Molecular Formula** | C10 H16 |
| **Molecular Weight** | 136.24 |

## 10. Stability and reactivity

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

**Stability** Stable under recommended storage conditions.

**Conditions to Avoid** Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.

**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

**Acute Toxicity**

**Product Information**

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| 1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)- | LD50 = 3650 mg/kg ( Rat ) | Not listed | Not listed |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** No information available

**Sensitization** No information available

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

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| 1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)- | 99-85-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** Category 1

**Symptoms / effects,both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**
No information available.

**Persistence and Degradability** Slightly soluble in water May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

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

## 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**
- **UN-No** UN2319
- **Proper Shipping Name** TERPENE HYDROCARBONS, N.O.S.
- **Hazard Class** 3
- **Packing Group** III

**TDG**
- **UN-No** UN2319
- **Proper Shipping Name** TERPENE HYDROCARBONS, N.O.S.
- **Hazard Class** 3
- **Packing Group** III

**IATA**
- **UN-No** UN2319
- **Proper Shipping Name** TERPENE HYDROCARBONS, N.O.S.
- **Hazard Class** 3
- **Packing Group** III

**IMDG/IMO**
- **UN-No** UN2319
- **Proper Shipping Name** TERPENE HYDROCARBONS, N.O.S.
- **Hazard Class** 3
- **Packing Group** III

## 15. Regulatory information

**All of the components in the product are on the following Inventory lists:** X = listed

**International Inventories**

| Component | DSL | NDSL | TSCA | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)- | X | - | X | 202-794-6 | - | | X | X | X | X | X |

**Canada**

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

## 16. Other information

| | |
|---|---|
| **Prepared By** | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com |
| **Creation Date** | 16-November-2010 |
| **Revision Date** | 19-January-2018 |
| **Print Date** | 19-January-2018 |
| **Revision Summary** | This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals. |

**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**