

Material Safety Data Sheet

1,2,3,4-Tetrahydronaphthalene

ACC# 23050

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,2,3,4-Tetrahydronaphthalene

Catalog Numbers: T72-4, T72-4LC

Synonyms: THN; Tetrahydronaphthalene; Tetralin.

Company Identification:

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
119-64-2	1,2,3,4-Tetrahydronaphthalene	100	204-340-2

Hazard Symbols: XI N

Risk Phrases: 19 36/38 51/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless to pale yellow liquid. Flash Point: 71 deg C. **Caution!** May cause eye and skin irritation. May cause central nervous system depression. Aspiration hazard if swallowed. Can enter lungs and cause damage. May form explosive peroxides. Uninhibited material, or material from which the inhibitor has been removed or reacted, may form explosive peroxides. **Combustible liquid and vapor.** Air sensitive. May cause respiratory tract irritation. This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable.

Target Organs: Kidneys, central nervous system, liver, eyes, skin.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: Aspiration hazard. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Inhalation of vapor may cause respiratory tract irritation. May cause narcotic effects in high concentration. Exposure produces central nervous system depression. May cause dizziness, incoordination, and unconsciousness.

Chronic: Overexposure may cause delayed kidney injury. Chronic ingestion may cause liver damage.

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. Do NOT allow victim to rub or keep eyes closed.

Skin: Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.

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. Possible aspiration hazard. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. Do NOT use mouth-to-mouth resuscitation.

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. May form explosive peroxides. May accumulate static electrical charges, and may cause ignition of its own vapors. Containers may explode when heated. Combustible liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors 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.

Flash Point: 71 deg C (159.80 deg F)

Autoignition Temperature: 385 deg C (725.00 deg F)

Explosion Limits, Lower:0.8% @ 212°F

Upper: 5.0% @ 302°F
NFPA Rating: (estimated) Health: 1; Flammability: 2; Instability: 0

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, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Isolate area and deny entry. Provide ventilation. Place under an inert atmosphere.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Ground and bond containers when transferring material. Avoid contact with skin and eyes. 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. If peroxide formation is suspected, do not open or move container. Avoid contact with air and sunlight. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Unused chemicals should not be returned to the container. Do not distill since this removes peroxide-inhibitors.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Regularly check inhibitor levels to maintain peroxide levels below 1%. Do not break the seal on the container until it is needed. Long-term storage is not recommended. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. 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
1,2,3,4-Tetrahydronaphthalene	none listed	none listed	none listed

OSHA Vacated PELs: 1,2,3,4-Tetrahydronaphthalene: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical goggles.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 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: clear, colorless to pale yellow

Odor: gasoline-like - hydrocarbon-like

pH: Not available.

Vapor Pressure: 1 mm Hg @ 38 deg C

Vapor Density: 4.6

Evaporation Rate:<1 (Butyl Acetate=1)

Viscosity: 2.2 mPa s @20 deg C

Boiling Point: 207 deg C

Freezing/Melting Point:-30 deg C

Decomposition Temperature:Not available.

Solubility: Negligible.

Specific Gravity/Density:.97

Molecular Formula:C₁₀H₁₂

Molecular Weight:132.20

Section 10 - Stability and Reactivity

Chemical Stability: Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation.

Conditions to Avoid: Light, ignition sources, exposure to air, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, Attacks some forms of plastics, rubber, and coatings..

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:**CAS#** 119-64-2: QK3850000**LD50/LC50:**

CAS# 119-64-2:

Oral, rat: LD50 = 1620 uL/kg;

Skin, rabbit: LD50 = 17300 uL/kg;

Carcinogenicity:

CAS# 119-64-2: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Neurotoxicity:** No information available.**Mutagenicity:** No information available.**Other Studies:** See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.**Environmental:** Terrestrial: Expected to adsorb into soil but has been detected in groundwater. Aquatic: Expected to adsorb into sediment and suspended solids. Atmospheric: Exists solely in vapor phase with a half life of 11 days. Undergoes biodegradation and bioconcentration.**Physical:** No information available.**Other:** No information available.

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	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 119-64-2 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**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 119-64-2: acute, flammable, reactive.

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

CAS# 119-64-2 can be found on the following state right to know lists: Pennsylvania.

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:

XI N

Risk Phrases:

R 19 May form explosive peroxides.
R 36/38 Irritating to eyes and skin.
R 51/53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28A After contact with skin, wash immediately with plenty of water.
S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

WGK (Water Danger/Protection)

CAS# 119-64-2: 2

Canada - DSL/NDSL

CAS# 119-64-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D2B.

Canadian Ingredient Disclosure List

CAS# 119-64-2 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

Section 16 - Additional Information

MSDS Creation Date: 10/26/1998

Revision #3 Date: 10/19/2001

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 event shall Fisher 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 Fisher has been advised of the possibility of such damages.