SAFETY DATA SHEET

1. Identification

Product Name
Naphthalene

Cat No. :
N7-500; N134-500

Synonyms
Tar Camphor; Naphthalin; Naphthene (Crystalline/Certified/Laboratory)

Recommended Use
Laboratory chemicals.

Uses advised against
No Information available

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

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable solids</td>
<td>Category 2</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Central nervous system (CNS).</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Target Organs - Kidney, Liver, spleen.</td>
<td></td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
Flammable solid

______________________________________________________________________________________________

Target Organs - Kidney, Liver, spleen.
Naphthalene

Revision Date 04-Sep-2014

Harmful if swallowed
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Suspected of causing cancer
Suspected of damaging fertility or the unborn child

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep cool
Ground/bond container and receiving equipment
Response
IF exposed or concerned: Get medical attention/advice
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects
Other hazards
WARNING! This product contains a chemical known in the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

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

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Inhalation  Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion  Do not induce vomiting. Call a physician or Poison Control Center immediately.

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  No information available

Flash Point  78 °C / 172.4 °F

Method -  No information available

Autoignition Temperature  526 °C / 978.8 °F

Explosion Limits

Upper  5.9 vol %

Lower  0.9 vol %

Sensitivity to Mechanical Impact  No information available

Sensitivity to Static Discharge  No information available

Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO₂)

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. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health  2  Flammability  2  Instability  0  Physical hazards  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. Avoid dust formation.

Environmental Precautions  Avoid release to the environment. Collect spillage. See Section 12 for additional ecological information.

Methods for Containment and Clean Up  Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling  Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only non-sparking tools. Use explosion-proof equipment. Avoid dust formation.

Storage  Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition.
## 8. Exposure controls / personal protection

### Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
</table>
| Naphthalene | TWA: 10 ppm  
STEL: 15 ppm  
Skin | (Vacated) TWA: 10 ppm  
(Vacated) STEL: 15 ppm  
TWA: 10 ppm  
TWA: 50 mg/m³ | IDLH: 250 ppm  
TWA: 10 ppm  
TWA: 50 mg/m³  
STEL: 15 ppm  
STEL: 75 mg/m³ |

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
</table>
| Naphthalene | TWA: 10 ppm  
TWA: 52 mg/m³  
STEL: 15 ppm  
STEL: 79 mg/m³ | TWA: 10 ppm  
TWA: 50 mg/m³  
STEL: 15 ppm  
STEL: 75 mg/m³ | TWA: 10 ppm  
STEL: 15 ppm |

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists  
OSHA - Occupational Safety and Health Administration  
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures**

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

**Personal Protective Equipment**

**Eye/face Protection**

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 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.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

- **Physical State**: Solid  
- **Appearance**: White  
- **Odor**: Characteristic  
- **Odor Threshold**: No information available  
- **pH**: No information available  
- **Melting Point/Range**: 79 - 82 °C / 174.2 - 179.6 °F  
- **Boiling Point/Range**: 218 °C / 424.4 °F  
- **Flash Point**: 78 °C / 172.4 °F  
- **Evaporation Rate**: No information available  
- **Flammability (solid, gas)**: No information available  
- **Flammability or explosive limits**:
  - **Upper**: 5.9 vol %  
  - **Lower**: 0.9 vol %  
- **Vapor Pressure**: 0.08 mbar @ 20 °C  
- **Vapor Density**: 4.4 (Air = 1.0)  
- **Relative Density**: 0.990  
- **Solubility**: No information available  
- **Partition coefficient; n-octanol/water**: No data available  
- **Autoignition Temperature**: 526 °C / 978.8 °F  
- **Decomposition Temperature**: 540 °C  
- **Viscosity**: No information available  
- **Molecular Formula**: C10 H8  
- **Molecular Weight**: 128.17
10. Stability and reactivity

Reactive Hazard  None known, based on information available
Stability  Stable under normal 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 (CO₂)
Hazardous Polymerization  Hazardous polymerization does not occur.
Hazardous Reactions  None under normal processing.

11. Toxicological information

Acute Toxicity

Component Information
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.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>Group 2B</td>
<td>Reasonably Anticipated</td>
<td>Not listed</td>
<td>X</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects  Not mutagenic in AMES Test
Reproductive Effects  Experiments have shown reproductive toxicity effects on laboratory animals.
Developmental Effects  Developmental effects have occurred in experimental animals.
Teratogenicity  Teratogenic effects have occurred in experimental animals.
STOT - single exposure  Central nervous system (CNS)
STOT - repeated exposure  Kidney Liver spleen
Aspiration hazard  No information available
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  Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity  Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
### 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.

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - U Series Wastes</th>
<th>RCRA - P Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene - 91-20-3</td>
<td>U165</td>
<td>-</td>
</tr>
</tbody>
</table>

### 14. Transport information

**DOT**

- UN-No: UN1334
- Proper Shipping Name: NAPHTHALENE, CRUDE
- Hazard Class: 4.1
- Packing Group: III

**TDG**

- UN-No: UN1334
- Proper Shipping Name: NAPHTHALENE, CRUDE
- Hazard Class: 4.1
- Packing Group: III

**IATA**

- UN-No: UN1334
- Proper Shipping Name: NAPHTHALENE, CRUDE
- Hazard Class: 4.1
- Packing Group: III

**IMDG/IMO**

- UN-No: UN1334
- Proper Shipping Name: NAPHTHALENE, CRUDE
- Hazard Class: 4.1
- Packing Group: III

### 15. Regulatory information

**International Inventories**

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>202-049-5</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Legend:**

- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>&gt;95</td>
<td>0.1</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Categorization
- Acute Health Hazard: Yes
- Chronic Health Hazard: Yes
- Fire Hazard: Yes
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

Clean Water Act

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>X</td>
<td>100 lb</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depletors</th>
<th>Class 2 Ozone Depletors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>100 lb, 1 lb</td>
<td></td>
</tr>
</tbody>
</table>

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>Carcinogen</td>
<td>5.8 µg/day</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class**
- B4  Flammable solid
- D1B  Toxic materials
- D2A  Very toxic materials

### 16. Other information

**Prepared By**
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

**Creation Date**
27-Sep-2010

**Revision Date**
04-Sep-2014

**Print Date**
04-Sep-2014

**Revision Summary**
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Disclaimer**
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS