2. HAZARDS IDENTIFICATION

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

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>2A</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>3</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>4</td>
</tr>
</tbody>
</table>

Label elements
Warning

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Combustible liquid

Hazard statements not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing 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
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Specific treatment (see .? on this label)
In case of fire: Use CO2, dry chemical, or foam to extinguish.
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.
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>90-12-0</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

Product code: M2116
Product name: 1-METHYLNAPHTHALENE
4. FIRST AID MEASURES

First aid measures

General Advice: Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

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

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms Causes eye irritation. Causes skin irritation. Harmful if swallowed. May cause irritation of respiratory tract.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Oxides

Specific hazards: Combustible material
May be ignited by heat, sparks or flames
Container explosion may occur under fire conditions or when heated
When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards
Fire may produce irritating, corrosive and/or toxic gases

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

Product code: M2116

Product name: 1-METHYLNAPHTHALENE
Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions: Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice: Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials: Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<tr>
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<td>None</td>
<td>0.5 ppm TWA</td>
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Product code: M2116 Product name: 1-METHYLNAPHTHALENE
Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
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<tbody>
<tr>
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<td>0.5 ppm TWA</td>
<td>0.5 ppm TWA</td>
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Australia and Mexico

<table>
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<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures to reduce exposure:
Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles Safety glasses with side-shields
Skin and body protection: Chemical resistant apron. Long sleeved clothing. Gloves.
Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent
Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES
9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid
**Odor:** No information available

**Formula:** C10H7CH3
**Flashpoint (°C/°F):** 82°C/179.6°F

**Upper Explosion Limit (%):** No information available
**Melting point/range (°C/°F):** -22°C/-7.6°F

**Bulk density:** No information available
**Density (g/cm3):** No information available

**VOC content (g/L):** No information available
**Viscosity:** No information available

**Appearance:** No information available
**Taste:** No information available

**Formula: Flammability:** Combustible
**Flash Point Tested according to:** Closed cup

**Autoignition Temperature (°C/°F):** 529°C/984.2°F
**Boiling point/range (°C/°F):** 244.6°C/472.3°F

**Density (g/cm3):** 1.0202
**Evaporation rate:** No information available

**Odor threshold (ppm):** 0.02

**Miscibility:** No information available

**Color:** Clear. Colorless.
**Molecular/Formula weight:** 142.2

**Flash point (°C):** No data available

**Upper Explosion Limit (%):** No information available
**Autoignition Temperature (°C/°F):** 529°C/984.2°F

**Decomposition temperature (°C/°F):** No information available
**Specific gravity:** 1.0202
**Vapor pressure @ 20°C (kPa):** 0 kPa @ 25°C

**Viscosity:** No information available
**Odor:** No information available

**Miscibility:** No information available

**Vapor density:** No information available

**Vapor pressure:** 0 kPa @ 25°C

**Partition coefficient (n-octanol/water):** 3.9

**Flashpoint (°C/°F):** 82°C/179.6°F
**Partition coefficient (n-octanol/water):** 3.9

**Solubility:** Insoluble in cold water
Insoluble in hot water
Soluble in Alcohol
Soluble in Benzene
Soluble in diethyl ether

10. STABILITY AND REACTIVITY

**Reactivity**
React with oxidizing agents

**Chemical stability**
**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Oxidizing agents.

**Hazardous decomposition products:** Carbon oxides.

**Other Information**
**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

1-Methylnaphthalene - 90-12-0

LD50/oral/rat = 1840 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rat = No information available
LD50/dermal/rabbit = 7500 mg/kg Dermal LD50 Rabbit
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 1840 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = 7500 mg/kg

LD50/dermal/rat
VALUE - Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:
Causes skin irritation.

Eye Contact:
Causes serious eye irritation.

Inhalation
May cause respiratory tract irritation.

Ingestion
Harmful if swallowed.

Aspiration hazard
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Chronic Toxicity: No information available

Sensitization: No information available

Mutagenic Effects: May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH - Carcinogens</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>A4 Not Classifiable as a Human Carcinogen</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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</tr>
</tbody>
</table>

Reproductive toxicity: No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity
STOT - single exposure: No information available
STOT - repeated exposure: No information available
Target Organs: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Ecotoxicity effects: No data available.

Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

**DOT**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Subsidiary Risk:** No information available
- **Packing Group:** None
- **ERG No:** No information available
- **Marine Pollutant:** No data available
- **DOT RQ (lbs):** No information available

**TDG (Canada)**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Subsidiary Risk:** No information available
- **Packing Group:** No information available
- **Description:** No information available

**ADR**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Packing Group:** No information available
- **Subsidiary Risk:** No information available
- **Classification Code:** No information available
- **Description:** No information available
- **CEFIC Tremcard No:** No information available

**IMO / IMDG**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Subsidiary Risk:** No information available
- **Packing Group:** No information available
- **Description:** No information available
- **IMDG Page:** No information available
- **Marine Pollutant:** No information available
- **MFAG:** No information available
- **Maximum Quantity:** No information available

**RID**
- **UN-No:** Not Regulated
- **Proper Shipping Name:** No information available
- **Hazard Class:** No information available
- **Subsidiary Risk:** No information available
- **Packing Group:** No information available
- **Classification Code:** No information available
- **Description:** No information available

Product code: M2116  
Product name: 1-METHYLNAPHTHALENE
14. TRANSPORT INFORMATION

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>Present</td>
<td>Not present</td>
<td>Present (4)-80</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Present 201-966-8</td>
</tr>
</tbody>
</table>

U.S. Regulations

1-Methylnaphthalene

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 4199
Pennsylvania RTK: Present
FDA - 21 CFR - Total Food Additives: Present


Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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</thead>
<tbody>
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<td>Not Listed</td>
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</table>

CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>

U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

Canada

Product code: M2116
Product name: 1-METHYLNAPHTHALENE
WHMIS hazard class:
Non-controlled

1-Methylnaphthalene
Uncontrolled product according to WHMIS classification criteria

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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<tbody>
<tr>
<td>1-Methylnaphthalene</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Methylnaphthalene</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

EU Classification

R-phrase(s)
R22 - Harmful if swallowed.
R36/37/38 - Irritating to eyes, respiratory system and skin.
R42/43 - May cause sensitization by inhalation and skin contact.

S -phrase(s)
S 7 - Keep container tightly closed.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S60 - This material and its container must be disposed of as hazardous waste.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
None.
Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet