1. IDENTIFICATION

Product identifier

Product code: C2060
Product Name: 1-CHLORONAPHTHALENE

Other means of identification

Synonyms: alpha-Chlornaphthalene
alpha-Chloronaphthalene
alpha-Naphthyl chloride
1-Naphthyl chloride

CAS #: 90-13-1
RTECS #: QJ2100000
CI#: Not available

Recommended use of the chemical and restrictions on use

Uses advised against: No information available

Supplier: Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA  90248
(310) 516-8000.

Order Online At: https://www.spectrumchemical.com
Emergency telephone number: Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Specific target organ toxicity (single exposure) Category 3

Label elements

Warning

Hazard statements
Harmful if swallowed
Causes skin irritation
Hazards 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
Wear protective gloves
Wear eye/face protection

Precautionary Statements - Response
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 water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
IF INHALED: Remove person to fresh air and keep 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>
</tr>
</thead>
<tbody>
<tr>
<td>1-Chloronaphthalene</td>
<td>90-13-1</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

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

Product code: C2060
Product name: 1-CHLORONAPHTHALENE
Eye Contact: Flush eyes with water for 15 minutes. Get medical attention. If symptoms persist, call a physician.

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. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Harmful if swallowed. Causes serious eye irritation. Causes skin irritation. Skin contact may result in redness, pain, inflammation, itching, scaling. Eye contact may result in redness or pain. Irritating to respiratory system.

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: Dry chemical. Carbon dioxide (CO2). 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: Hydrogen chloride, Carbon oxides

Hazardous Combustion Products: No information available.

Specific hazards: May be combustible at high temperatures. May be ignited by heat, sparks or flames.

Special Protective Actions for Firefighters

Specific Methods: No information available.

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. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Remove all sources of ignition.

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).

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. 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. Keep away from open flames, hot surfaces and sources of ignition. All equipment used when handling the product must be grounded. Keep away from incompatible materials.

Safe Handling Advice Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Keep away from heat and sources of ignition. 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. Store away from incompatible materials.

Incompatible Materials: Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<td>None</td>
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Canada

<table>
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<tr>
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<th>CAS-No.</th>
<th>Canada - Alberta</th>
<th>Canada - British Columbia</th>
<th>Canada - Ontario</th>
<th>Canada - Quebec</th>
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</thead>
<tbody>
<tr>
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<td>90-13-1</td>
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<td>None</td>
<td>None</td>
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Product code: C2060  
Product name: 1-CHLORONAPHTHALENE
### Australia and Mexico

<table>
<thead>
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<th>Components</th>
<th>CAS-No.</th>
<th>Australia</th>
<th>Mexico</th>
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</thead>
<tbody>
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<td>1-Chloronaphthalene</td>
<td>90-13-1</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Appropriate engineering controls

<table>
<thead>
<tr>
<th>Engineering measures to reduce exposure:</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Individual protection measures, such as personal protective equipment

**Personal Protective Equipment**

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

---

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
<th>Formula:</th>
<th>Flashpoint (°C/°F):</th>
<th>Autoignition Temperature (°C/°F):</th>
<th>Lower Explosion Limit (%):</th>
<th>Decomposition temperature(°C/°F):</th>
<th>Density (g/cm³):</th>
<th>Vapor pressure @ 20°C (kPa):</th>
<th>VOC content (g/L):</th>
<th>Viscosity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Oily</td>
<td>Colorless</td>
<td>C10H7Cl</td>
<td>121°C/250°F</td>
<td>&gt;558°C/1036°F</td>
<td>No information available</td>
<td>No information available</td>
<td>1.194</td>
<td>0.0039 @ 25 deg. C</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

- **Odor:** No information available.
- **Taste:** Astringent. Sweetish.
- **Flammability:** No information available.
- **Flash Point Tested according to:** Closed cup.
- **Upper Explosion Limit (%):** No information available.
- **Melting point/range(°C/°F):** -2.5°C/27.5°F.
- **Boiling point/range(°C/°F):** 259°C/498°F.
- **Specific gravity:** 1.194.
- **Evaporation rate:** No information available.
- **Odor threshold (ppm):** No information available.
- **Partition coefficient (n-octanol/water):** log Kow = 4.0.
- **Miscibility:** Solubility:

**Product code:** C2060

**Product name:**

1-CHLORONAPHTHALENE
10. STABILITY AND REACTIVITY

Reactivity
Reactive with oxidizing agents

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur
May release toxic and/or corrosive fumes


Incompatible Materials: Strong oxidizing agents

Hazardous decomposition products:
Carbon oxides. Hydrogen chloride.

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:
Ingestion. Inhalation.

Acute Toxicity

Component Information

1-Chloronaphthalene

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>90-13-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50/oral/rat = 1540 mg/kg Oral LD50 Rat</td>
<td></td>
</tr>
<tr>
<td>LD50/oral/mouse = 1091 mg/kg oral LD50 mouse</td>
<td></td>
</tr>
<tr>
<td>LD50/dermal/rabbit = No information available</td>
<td></td>
</tr>
<tr>
<td>LD50/dermal/rat = No information available</td>
<td></td>
</tr>
<tr>
<td>LC50/inhalation/rat = No information available</td>
<td></td>
</tr>
<tr>
<td>LC50/inhalation/mouse = No information available</td>
<td></td>
</tr>
<tr>
<td>Other LD50 or LC50 information = 2000 mg/kg oral LD50 guinea pig</td>
<td></td>
</tr>
</tbody>
</table>

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 1540 mg/kg
LD50/oral/mouse = Value - Acute Tox Oral = 1091 mg/kg

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

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. May cause chloracne.

Eye Contact: Causes serious eye irritation.

Inhalation Causes 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: No information available

Carcinogenic effects: Not considered carcinogenic.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
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<td>1-Chloronaphthalene</td>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Product code: C2060
Product name: 1-CHLORONAPHTHALENE
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: Aquatic environment.

1-Chloronaphthalene - 90-13-1
Freshwater Algae Data: 0.49 mg/L EC50 Selenastrum capricornutum 72h
Freshwater Fish Species Data: 2.3 mg/L LC50 Lepomis macrochirus 96h
1.7 mg/L LC50 Oryzias latipes 96h
1.5 mg/L LC50 Oryzias latipes 48h
Water Flea Data: 0.73-0.81 mg/L EC50 Daphnia magna 48h
Persistence and degradability: No information available
Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is high.
Mobility: It is expected to have slight mobility in soil based upon estimated Koc.

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>
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<th></th>
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<tbody>
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<td>1-Chloronaphthalene</td>
<td>90-13-1</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 Class: No information available
Packing group: No information available
Emergency Response Guide Number: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

Product code: C2060  Product name: 1-CHLORONAPHTHALENE
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
Marine Pollutant: No Information available
Description: No information available

ADR
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

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
Marine Pollutant: 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

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

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
ERG Code: No information available
Special Provisions: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</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>
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<tbody>
<tr>
<td>1-Chloronaphthalene</td>
<td>90-13-1</td>
<td>Present</td>
<td>Present KE-05776</td>
<td>Present (4)-316</td>
<td>Present</td>
<td>Present</td>
<td>Present</td>
<td>Present 201-967-3</td>
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</table>

U.S. Regulations

Product code: C2060
Product name: 1-CHLORONAPHTHALENE

**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>CAS-No.</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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</thead>
<tbody>
<tr>
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<td>Not Listed</td>
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</tbody>
</table>

**CERCLA/SARA**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</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>
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<tbody>
<tr>
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</table>

**U.S. TSCA**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
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<tr>
<td>1-Chloronaphthalene</td>
<td>90-13-1</td>
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</table>

**Canada**

**WHMIS hazard class:**
D2B Toxic materials

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<tr>
<th>Components</th>
<th>WHIMHAZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Chloronaphthalene</td>
<td>D2B</td>
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**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**

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<tr>
<th>Components</th>
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<th>Canada (DSL)</th>
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<table>
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<th>Components</th>
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<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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<tbody>
<tr>
<td>1-Chloronaphthalene</td>
<td>90-13-1</td>
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</tbody>
</table>

**EU Classification**

**R-phrase(s)**
R22 - Harmful if swallowed.
R36/37/38 - Irritating to eyes, respiratory system and skin.

**S-phrase(s)**
S46 - If swallowed, seek medical advice immediately and show this container or label.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 - Wear suitable gloves.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Chloronaphthalene</td>
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</table>

**Product code:** C2060

**Product name:** 1-CHLORONAPHTHALENE
Indication of danger:
Xn - Harmful.
Xi - Irritant.

16. OTHER INFORMATION

Preparation Date: 3/13/2017
Revision Date: 3/13/2017
Prepared by: Sonia Owen

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