SECTION 1 Identification

Product Identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>1-(CHLOROMETHYL)NAPHTHALENE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>1-(chloromethyl)naphthalene</td>
</tr>
<tr>
<td>Synonyms</td>
<td>C11-H9-Ci; C10H7CH2Cl; alpha-chloromethylnaphthalene</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (contains 1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>Chemical formula</td>
<td>C11H9Cl</td>
</tr>
<tr>
<td>Other means of</td>
<td>Not Available</td>
</tr>
<tr>
<td>identification</td>
<td></td>
</tr>
<tr>
<td>CAS number</td>
<td>86-52-2</td>
</tr>
</tbody>
</table>

Recommended use of the chemical and restrictions on use

| Relevant identified uses | Intermediate. | ~Intermediate ~ |

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

<table>
<thead>
<tr>
<th>Registered company name</th>
<th>InterAtlas Chemical Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>63 Church Street, Suite 301, St. Catharines Ontario L2R 3C4 Canada</td>
</tr>
<tr>
<td>Telephone</td>
<td>905-684-9991</td>
</tr>
<tr>
<td>Fax</td>
<td>905-684-4504</td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.interatlaschemical.com">www.interatlaschemical.com</a></td>
</tr>
<tr>
<td>Email</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Emergency phone number

<table>
<thead>
<tr>
<th>Association / Organisation</th>
<th>CHEMTREC, US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency telephone numbers</td>
<td>800-424-9300</td>
</tr>
<tr>
<td>Other emergency telephone numbers</td>
<td>International: +1-703-527-3887</td>
</tr>
</tbody>
</table>

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

NFPA 704 diamond

Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

<table>
<thead>
<tr>
<th>Canadian WHMIS Symbols</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Carcinogenicity Category 2, Hazardous to the Aquatic Environment Long-Term Hazard Category 1</td>
</tr>
</tbody>
</table>
Signal word: Danger

Hazard statement(s):
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H351 Suspected of causing cancer.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s) Prevention:
- P201 Obtain special instructions before use.
- P260 Do not breathe dust/fume.
- P264 Wash all exposed external body areas thoroughly after handling.
- P280 Wear protective gloves, protective clothing, eye protection and face protection.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.

Precautionary statement(s) Response:
- P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P362+P364 Take off contaminated clothing and wash it before reuse.

Precautionary statement(s) Storage:
- P405 Store locked up.

Precautionary statement(s) Disposal:
- P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients:

<table>
<thead>
<tr>
<th>Substances</th>
<th>CAS No</th>
<th>% [weight]</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>86-52-2</td>
<td>&gt;98</td>
<td>1-(CHLOROMETHYL)NAPHTHALENE</td>
</tr>
</tbody>
</table>

Mixtures:
See section above for composition of Substances

SECTION 4 First-aid measures:

Description of first aid measures:

Eye Contact:
- If this product comes in contact with the eyes:
  - Immediately hold eyelids apart and flush the eye continuously with running water.
  - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
  - Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
  - Transport to hospital or doctor without delay.
  - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
**Skin Contact**
- If skin or hair contact occurs:
  - Immediately flush body and clothes with large amounts of water, using safety shower if available.
  - Quickly remove all contaminated clothing, including footwear.
  - Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poison Information Centre.
  - Transport to hospital, or doctor.

**Inhalation**
- If fumes or combustion products are inhaled remove from contaminated area.
  - Lay patient down. Keep warm and rested.
  - Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
  - Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained.
  - Perform CPR if necessary.
  - Transport to hospital, or doctor, without delay.
  - Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.
  - Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).
  - As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.
  - Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.
  - This must definitely be left to a doctor or person authorised by him/her.
  - (ICSC13719)

**Ingestion**
- For advice, contact a Poison Information Centre or a doctor at once.
  - Urgent hospital treatment is likely to be needed.
  - If swallowed do NOT induce vomiting.
  - If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
  - Observe the patient carefully.
  - Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
  - Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
  - Transport to hospital or doctor without delay.

---

**SECTION 5 Fire-fighting measures**

**Extinguishing media**
- **DO NOT** use water.

**Special hazards arising from the substrate or mixture**
- **Fire Incompatibility**
  - Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

**Special protective equipment and precautions for fire-fighters**
- **Fire Fighting**
  - Alert Fire Brigade and tell them location and nature of hazard.
  - Wear full body protective clothing with breathing apparatus.
  - Prevent, by any means available, spillage from entering drains or water course.
  - Use fire fighting procedures suitable for surrounding area.
  - Do not approach containers suspected to be hot.
  - Cool fire exposed containers with water spray from a protected location.
  - It safe to do so, remove containers from path of fire.
  - Equipment should be thoroughly decontaminated after use.

- **Fire/Explosion Hazard**
  - Combustible.
  - Slight fire hazard when exposed to heat or flame.
  - Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.
  - Heating may cause expansion or decomposition leading to violent rupture of containers.
  - May emit acid smoke and corrosive fumes.
  - Combustion products include:
    - carbon monoxide (CO)
    - carbon dioxide (CO2)
    - hydrogen chloride
    - phosgene
    - other pyrolysis products typical of burning organic material.
SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
See section 8

Environmental precautions
See section 12

Methods and material for containment and cleaning up

<table>
<thead>
<tr>
<th>Minor Spills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean up waste regularly and abnormal spills immediately.</td>
</tr>
<tr>
<td>Avoid breathing dust and contact with skin and eyes.</td>
</tr>
<tr>
<td>Wear protective clothing, gloves, safety glasses and dust respirator.</td>
</tr>
<tr>
<td>Use dry clean up procedures and avoid generating dust.</td>
</tr>
<tr>
<td>Vacuum up or sweep up. <strong>NOTE:</strong> Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use).</td>
</tr>
<tr>
<td>Dampen with water to prevent dusting before sweeping.</td>
</tr>
<tr>
<td>Place in suitable containers for disposal.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Spills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear area of personnel and move upwind.</td>
</tr>
<tr>
<td>Alert Fire Brigade and tell them location and nature of hazard.</td>
</tr>
<tr>
<td>Wear full body protective clothing with breathing apparatus.</td>
</tr>
<tr>
<td>Prevent, by any means available, spillage from entering drains or water course.</td>
</tr>
<tr>
<td>Consider evacuation (or protect in place).</td>
</tr>
<tr>
<td>Stop leak if safe to do so.</td>
</tr>
<tr>
<td>Contain spill with sand, earth or vermiculite.</td>
</tr>
<tr>
<td>Collect recoverable product into labelled containers for recycling.</td>
</tr>
<tr>
<td>Neutralise/decontaminate residue (see Section 13 for specific agent).</td>
</tr>
<tr>
<td>Collect solid residues and seal in labelled drums for disposal.</td>
</tr>
<tr>
<td>Wash area and prevent runoff into drains.</td>
</tr>
<tr>
<td>After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</td>
</tr>
<tr>
<td>If contamination of drains or waterways occurs, advise emergency services.</td>
</tr>
</tbody>
</table>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

<table>
<thead>
<tr>
<th>Safe handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid all personal contact, including inhalation.</td>
</tr>
<tr>
<td>Wear protective clothing when risk of exposure occurs.</td>
</tr>
<tr>
<td>Use in a well-ventilated area.</td>
</tr>
<tr>
<td><strong>WARNING:</strong> To avoid violent reaction, <strong>ALWAYS</strong> add material to water and <strong>NEVER</strong> water to material.</td>
</tr>
<tr>
<td>Avoid smoking, naked lights or ignition sources.</td>
</tr>
<tr>
<td>Avoid contact with incompatible materials.</td>
</tr>
<tr>
<td>When handling, <strong>DO NOT</strong> eat, drink or smoke.</td>
</tr>
<tr>
<td>Keep containers securely sealed when not in use.</td>
</tr>
<tr>
<td>Avoid physical damage to containers.</td>
</tr>
<tr>
<td>Always wash hands with soap and water after handling.</td>
</tr>
<tr>
<td>Work clothes should be laundered separately. Launder contaminated clothing before re-use.</td>
</tr>
<tr>
<td>Use good occupational work practice.</td>
</tr>
<tr>
<td>Observe manufacturer’s storage and handling recommendations contained within this SDS.</td>
</tr>
<tr>
<td>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</td>
</tr>
<tr>
<td>Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidising medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions).</td>
</tr>
<tr>
<td>Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.</td>
</tr>
<tr>
<td>Establish good housekeeping practices.</td>
</tr>
<tr>
<td>Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.</td>
</tr>
<tr>
<td>Use continuous suction at points of dust generation to capture and minimise the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimise the probability of a &quot;secondary&quot; explosion. According to NFPA Standard 654, dust layers 1/32 in. (0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.</td>
</tr>
<tr>
<td>Do not use air hoses for cleaning.</td>
</tr>
<tr>
<td>Minimise dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area.</td>
</tr>
<tr>
<td>Vacuums with explosion-proof motors should be used.</td>
</tr>
<tr>
<td>Control sources of static electricity. Dusts or their packages may accumulate static charges, and static discharge can be a source of ignition.</td>
</tr>
<tr>
<td>Solids handling systems must be designed in accordance with applicable standards (e.g. NFPA including 654 and 77) and other national guidance.</td>
</tr>
<tr>
<td>Do not empty directly into flammable solvents or in the presence of flammable vapors.</td>
</tr>
<tr>
<td>The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.</td>
</tr>
<tr>
<td>Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.</td>
</tr>
<tr>
<td><strong>Do NOT</strong> cut, drill, grind or weld such containers.</td>
</tr>
<tr>
<td>In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store in original containers.</td>
</tr>
<tr>
<td>Keep containers securely sealed.</td>
</tr>
<tr>
<td>Store in a cool, dry, well-ventilated area.</td>
</tr>
<tr>
<td>Store away from incompatible materials and foodstuffs containers.</td>
</tr>
<tr>
<td>Protect containers against physical damage and check regularly for leaks.</td>
</tr>
<tr>
<td>Observe manufacturer’s storage and handling recommendations contained within this SDS.</td>
</tr>
</tbody>
</table>
Conditions for safe storage, including any incompatibilities

Suitable container

- DO NOT use aluminium or galvanised containers
- Check regularly for spills and leaks
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- Removable head packaging;
- Cans with friction closures and
- low pressure tubes and cartridges
  may be used.

Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

Corrodes steel.

Storage incompatibility

- Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.
- Segregate from alcohol, water.
- Avoid strong bases.
- Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.

NOTE: May develop pressure in containers; open carefully. Vent periodically.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Occupational Exposure Band Rating</th>
<th>Occupational Exposure Band Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(CHLOROMETHYL)NAPHTHALENE</td>
<td>C</td>
<td>&gt; 0.1 to ≤ milligrams per cubic meter of air (mg/m³)</td>
</tr>
</tbody>
</table>

Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

Exposure controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

- Process controls which involve changing the way a job activity or process is done to reduce the risk.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
  - Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
  - Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant: Air Speed:

<table>
<thead>
<tr>
<th>Type of Contaminant</th>
<th>Air Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct spray, spray painting in shallow booths, drum filling, conveyor loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td>
<td>1-2.5 m/s (200-500 l/min)</td>
</tr>
<tr>
<td>Grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)</td>
<td>2.5-10 m/s (500-2000 l/min)</td>
</tr>
</tbody>
</table>

Within each range the appropriate value depends on:

- Lower end of the range
- Upper end of the range
1. Room air currents minimal or favourable to capture
2. Contaminants of low toxicity or of nuisance value only
3. Intermittent, low production.
4. Large hood or large air mass in motion

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 f/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal protection

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.
- Chemical goggles, wherever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively, a gas mask may replace splash goggles and face shields.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsortion for the class of chemicals in use and an account of injury experience.

Eye and face protection

- Hands/feet protection

- Hands/feet protection

- Skin protection

- Skin protection

- Respiratory protection

- Respiratory protection

- Other protection

- Other protection

- Body protection

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- Personal protection

- Personal protection
Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Use approved positive flow mask if significant quantities of dust becomes airborne. Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>White powder or colourless liquid dependent on ambient conditions; does not mix well with water.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Divided Solid</td>
</tr>
<tr>
<td>Odour</td>
<td>Not Available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH (as supplied)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Melting point / freezing point (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range (°C)</td>
<td>167-169 (25 mm)</td>
</tr>
<tr>
<td>Flash point (°C)</td>
<td>&gt;110</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Upper Explosive Limit (%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Lower Explosive Limit (%)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Vapour pressure (kPa)</td>
<td>Negligible</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Reacts</td>
</tr>
<tr>
<td>Vapour density (Air = 1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Molecular weight (g/mol)</td>
<td>176.65</td>
</tr>
<tr>
<td>Viscosity (cSt)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature (°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not Available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol / water</td>
<td>Not Available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not Available</td>
</tr>
<tr>
<td>Taste</td>
<td>Not Available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not Available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not Available</td>
</tr>
<tr>
<td>Surface Tension (dyn/cm or mN/m)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Gas group</td>
<td>Not Available</td>
</tr>
<tr>
<td>pH as a solution (%)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>VOC g/L</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 10 Stability and reactivity

Reactivity

See section 7

Chemical stability

- Contact with alkaline material liberates heat
- Unstable in the presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Possibility of hazardous reactions

See section 7

Conditions to avoid

See section 7

Incompatible materials

See section 7

Hazardous decomposition products

See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled

The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

Inhalation of quantities of liquid mist may be extremely hazardous, even lethal due to spasm, extreme irritation of larynx and bronchi, chemical pneumonitis and pulmonary oedema.

Ingestion

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident.

Skin contact

Skin contact with the material may be harmful; systemic effects may result following absorption. Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Solution of material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction.
Eye

If applied to the eyes, this material causes severe eye damage. Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely.

Irritation of the eyes may produce a heavy secretion of tears (lachrymation).

Chronic

Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs.

There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung.

1-(chloromethyl)naphthalene

**TOXICITY**

Dermal (rabbit) LD50: ~2000 mg/kg[^1]

Oral (Rat) LD50: ~890 mg/kg[^1]

**IRRITATION**

Not Available

---

**STOT - Single Exposure**

**Skin Irritation/Corrosion**

Not Available

---

**STOT - Repeated Exposure**

**Mutagenicity**

Not Available

**Respiratory or Skin sensitisation**

Not Available

---

**Reproductivity**

Not Available

---

**Carcinogenicity**

Not Available

---

**Aspiration Hazard**

Not Available

---

**Legend:**

- Data either not available or does not fill the criteria for classification
- Data available to make classification

### SECTION 12 Ecological information

**Acute Toxicity**

- 1-(chloromethyl)naphthalene: Not Available

**Skin Irritation/Corrosion**

- 1-(chloromethyl)naphthalene: Not Available

**Serious Eye Damage/Irritation**

- 1-(chloromethyl)naphthalene: Not Available

**Respiratory or Skin sensitisation**

- 1-(chloromethyl)naphthalene: Not Available

**Mutagenicity**

- 1-(chloromethyl)naphthalene: Not Available

**Carcinogenicity**

- 1-(chloromethyl)naphthalene: Not Available

**Aspiration Hazard**

- 1-(chloromethyl)naphthalene: Not Available

**STOT - Single Exposure**

- 1-(chloromethyl)naphthalene: Not Available

**STOT - Repeated Exposure**

- 1-(chloromethyl)naphthalene: Not Available

**Respiratory or Skin sensitisation**

- 1-(chloromethyl)naphthalene: Not Available

**Mutagenicity**

- 1-(chloromethyl)naphthalene: Not Available

**Carcinogenicity**

- 1-(chloromethyl)naphthalene: Not Available

**Aspiration Hazard**

- 1-(chloromethyl)naphthalene: Not Available

---

**Legend:**

- ✓ – Data available to make classification
- ✗ – Data either not available or does not fill the criteria for classification

**Ecological information**

**Toxicity**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Endpoint</th>
<th>Test Duration (hr)</th>
<th>Species</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(chloromethyl)naphthalene</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Legend:

- Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

**Very toxic to aquatic organisms.**

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites. Prevent, by any means available, spillage from entering drains or water courses.

**DO NOT discharge into sewer or waterways.**

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Persistence: Water/Soil</th>
<th>Persistence: Air</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(chloromethyl)naphthalene</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(chloromethyl)naphthalene</td>
<td>MEDIUM (LogKOW = 3.9703)</td>
</tr>
</tbody>
</table>

**Mobility in soil**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(chloromethyl)naphthalene</td>
<td>LOW (KOC = 5870)</td>
</tr>
</tbody>
</table>

---

**SECTION 13 Disposal considerations**

**Waste treatment methods**

Continued...
**Product / Packaging disposal**

- Containers may still present a chemical hazard/danger when empty.
- Return to supplier for reuse/recycling if possible.
- Otherwise:
  - If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
  - Where possible retain label warnings and SDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:
- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted.

**DO NOT** allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

Where in doubt contact the responsible authority.

Recycle wherever possible.

Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurring in water; Neutralisation with soda-lime or soda-ash followed by: burial in a land-fill specifically licensed to accept chemical and/or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).

Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

**SECTION 14 Transport information**

**Labels Required**

- **Marine Pollutant**

**Land transport (TDG)**

<table>
<thead>
<tr>
<th>UN number</th>
<th>3261</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (contains 1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>Class 8</td>
</tr>
<tr>
<td>Subrisk</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Environmentally hazardous</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Special provisions 16</td>
</tr>
<tr>
<td>Explosive Limit and Limited Quantity Index</td>
<td>1 kg</td>
</tr>
<tr>
<td>ERAP Index</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**Air transport (ICAO-IATA / DGR)**

<table>
<thead>
<tr>
<th>UN number</th>
<th>3261</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>Corrosive solid, acidic, organic, n.o.s. * (contains 1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>ICAO/IATA Class 8</td>
</tr>
<tr>
<td>ICAO / IATA Subrisk</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>ERG Code</td>
<td>8L</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Environmentally hazardous</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Special provisions</td>
</tr>
<tr>
<td>Cargo Only Packing Instructions</td>
<td>A3 A803 863</td>
</tr>
<tr>
<td>Cargo Only Maximum Qty / Pack</td>
<td>50 kg</td>
</tr>
<tr>
<td>Passenger and Cargo Packing Instructions</td>
<td>859</td>
</tr>
<tr>
<td>Passenger and Cargo Maximum Qty / Pack</td>
<td>15 kg</td>
</tr>
<tr>
<td>Passenger and Cargo Limited Quantity Packing Instructions</td>
<td>Y844</td>
</tr>
</tbody>
</table>

[Continued...]
Sea transport (IMDG-Code / GGVSee)

- **UN number**: 3261
- **UN proper shipping name**: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (contains 1-(chloromethyl)naphthalene)
- **Transport hazard class(es)**:
  - IMDG Class: 8
  - IMDG Subrisk: Not Applicable
- **Packing group**: II
- **Environmental hazard**: Marine Pollutant
- **Special precautions for user**:
  - EMS Number: F-A, S-B
  - Special provisions: 274
  - Limited Quantities: 1 kg

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

<table>
<thead>
<tr>
<th>Product name</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(chloromethyl)naphthalene</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

Transport in bulk in accordance with the ICG Code

<table>
<thead>
<tr>
<th>Product name</th>
<th>Ship Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-(chloromethyl)naphthalene</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

1-(chloromethyl)naphthalene is found on the following regulatory lists

**National Inventory Status**

<table>
<thead>
<tr>
<th>National Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia - AIIC / Australia Non-Industrial Use</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada - DSL</td>
<td>No (1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>Canada - NDSL</td>
<td>Yes</td>
</tr>
<tr>
<td>China - IECSC</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe - EINEC / ELINCS / NLP</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan - ENCS</td>
<td>No (1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>Korea - KECI</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand - NZIoC</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines - PICCS</td>
<td>No (1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>USA - TSCA</td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan - TCSI</td>
<td>Yes</td>
</tr>
<tr>
<td>Mexico - INSP</td>
<td>No (1-(chloromethyl)naphthalene)</td>
</tr>
<tr>
<td>Vietnam - NCI</td>
<td>Yes</td>
</tr>
<tr>
<td>Russia - FBEPH</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Legend:**

- Yes = All CAS declared ingredients are on the inventory
- No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

**Revision Date**: 04/12/2017

**Initial Date**: 12/05/2005

Other information
Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
PC – STEL: Permissible Concentration-Short Term Exposure Limit
IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit,
IDLH: Immediately Dangerous to Life or Health Concentrations
ES: Exposure Standard
OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index
AIC: Australian Inventory of Industrial Chemicals
DSL: Domestic Substances List
NDSSL: Non-Domestic Substances List
IECSC: Inventory of Existing Chemical Substance in China
EINECS: European Inventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
NLP: No-Longer Polymers
ENCS: Existing and New Chemical Substances Inventory
KECI: Korea Existing Chemicals Inventory
NZIoC: New Zealand Inventory of Chemicals
PICCS: Philippine Inventory of Chemicals and Chemical Substances
TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas
NCI: National Chemical Inventory
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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