1 Identification

· Product identifier
· Trade name: Nabumetone
· Synonym 4-(6-methoxy-2-naphthalenyl)-2-butaneone
  BRL 14777
· Article number: 20251
· CAS Number: 42924-53-8
· EC number: 641-917-1
· Application of the substance / the mixture For research use only, not for human or veterinary use.

· Details of the supplier of the safety data sheet
· Manufacturer/Supplier: Cayman Chemical Co.
  1180 E. Ellsworth Rd.
  Ann Arbor, MI 48108
  USA
· Information department: Product safety department
· Emergency telephone number:
  During normal opening times: +1 (734) 971-3335
  US/CANADA: 800-424-9300
  Outside US/CANADA: 703-741-5970

2 Hazard(s) identification

· Classification of the substance or mixture
  GHS09 Environment

  Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

· Label elements
· GHS label elements
  The substance is classified and labeled according to the Globally Harmonized System (GHS).
· Hazard pictograms
  GHS09

· Signal word None
· Hazard statements
  H411 Toxic to aquatic life with long lasting effects.
· Precautionary statements
  Avoid release to the environment.
  Collect spillage.
Trade name: Nabumetone

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 0
    - Fire = 0
    - Reactivity = 0
  
- **HMIS-ratings (scale 0 - 4)**
  - Health = 1
  - Fire = 0
  - Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization:** Substances
  - **CAS No. Description**
    - 42924-53-8 Nabumetone
  - **Identification number(s)**
  - **EC number:** 641-917-1

### 4 First-aid measures

- **Description of first aid measures**
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:** Generally the product does not irritate the skin.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed**
    - May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
    - No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed**
    - No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
  - **Suitable extinguishing agents:**
    - Use fire fighting measures that suit the environment.
    - A solid water stream may be inefficient.
  - **Special hazards arising from the substance or mixture**
    - No further relevant information available.
Trade name: Nabumetone

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions:
  - Inform respective authorities in case of seepage into water course or sewage system.
  - Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Pick up mechanically.
- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.
- Protective Action Criteria for Chemicals
  - PAC-1: 1.5 mg/m³
  - PAC-2: 16 mg/m³
  - PAC-3: 620 mg/m³

7 Handling and storage

- Handling:
  - Precautions for safe handling
    - No special precautions are necessary if used correctly.
    - Avoid breathing dust/fume/gas/mist/vapours/spray.
    - Avoid prolonged or repeated exposure.
    - Keep away from sources of ignition.
    - Take precautionary measures against static discharge.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures: Wash hands before breaks and at the end of work.
- Breathing equipment: Not required.
- Protection of hands:
  - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Trade name: Nabumetone

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Not required.

### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form: Crystalline</td>
</tr>
<tr>
<td>Color: Not determined.</td>
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<tr>
<td>Odor: Characteristic</td>
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<tr>
<td><strong>Structural Formula</strong></td>
</tr>
<tr>
<td><strong>Molecular Weight</strong></td>
</tr>
<tr>
<td><strong>Odor threshold:</strong></td>
</tr>
<tr>
<td><strong>pH-value:</strong></td>
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<tr>
<td><strong>Change in condition</strong></td>
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<tr>
<td>Melting point/Melting range: Undetermined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range: Undetermined.</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
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<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong></td>
</tr>
<tr>
<td><strong>Auto igniting:</strong></td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
</tr>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
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<tr>
<td><strong>Vapor pressure:</strong></td>
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<tr>
<td><strong>Density:</strong></td>
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<tr>
<td>Relative density</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
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<tr>
<td><strong>Solubility in / Miscibility with</strong></td>
</tr>
<tr>
<td>Water: Not determined.</td>
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<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
</tr>
<tr>
<td>Dynamic: Not applicable.</td>
</tr>
</tbody>
</table>

(Contd. from page 3)
Trade name: Nabumetone

### 10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided**: No decomposition if used according to specifications.
- **Possibility of hazardous reactions**: No dangerous reactions known.
- **Conditions to avoid**: No further relevant information available.
- **Incompatible materials**: strong oxidizing agents
- **Hazardous decomposition products**: carbon oxides

### 11 Toxicological information

- **RTECS Number**: EL9085000
- **Information on toxicological effects**
- **Acute toxicity**:
  - **LD/LC50 values that are relevant for classification**:
    | Route          | Value               |
    |----------------|---------------------|
    | Oral LD50      | 4,290 mg/kg (mouse) |
    |                 | 3,880 mg/kg (rat)   |
    | TDLO           | 1,260 mg/kg/6W (intermittent) (wmn) |
    | Intraperitoneal LD50 | 2,380 mg/kg (mouse) |
    |                 | 1,520 mg/kg (rat)   |
    | Subcutaneous LD50 | >10 g/kg (mouse)    |
    |                 | >10 g/kg (rat)      |
- **Primary irritant effect**:
  - **on the skin**: No irritant effect.
  - **on the eye**: No irritating effect.
- **Sensitization**: No sensitizing effects known.
- **Additional toxicological information**:
  - **Carcinogenic categories**
    - IARC (International Agency for Research on Cancer) Substance is not listed.
    - NTP (National Toxicology Program) Substance is not listed.
    - OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity**: No further relevant information available.
- **Persistence and degradability**: No further relevant information available.
- **Behavior in environmental systems**:
- **Bioaccumulative potential**: No further relevant information available.
- **Mobility in soil**: No further relevant information available.
Safety Data Sheet
acc. to OSHA HCS

Printing date 03/08/2021
Revision date 03/08/2021

Trade name: Nabumetone

- Ecotoxicological effects:
- Remark: Toxic for fish
- Additional ecological information:
- General notes:
  Water hazard class 2 (Self-assessment): hazardous for water
  Do not allow product to reach ground water, water course or sewage system.
  Danger to drinking water if even small quantities leak into the ground.
  Also poisonous for fish and plankton in water bodies.
  Toxic for aquatic organisms
- Results of PBT and vPvB assessment
  PBT: Not applicable.
  vPvB: Not applicable.
- Other adverse effects
  No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation:
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
- Recommendation:
  Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  DOT, IMDG, IATA not regulated
- UN proper shipping name
  DOT, IMDG, IATA not regulated
- Transport hazard class(es)
  DOT, ADN, IMDG, IATA
  - Class not regulated
- Packing group
  DOT, IMDG, IATA not regulated
- Environmental hazards:
  Environmentally hazardous substance, solid
- Special precautions for user
  Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  Not applicable.
- UN "Model Regulation": not regulated

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  No further relevant information available.
- Sara
- Section 355 (extremely hazardous substances): Substance is not listed.
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(Contd. from page 6)

- Section 313 (Specific toxic chemical listings): Substance is not listed.
- TSCA (Toxic Substances Control Act): Substance is not listed.
- Hazardous Air Pollutants: Substance is not listed.
- Proposition 65
- Chemicals known to cause cancer: Substance is not listed.
- Chemicals known to cause reproductive toxicity for females: Substance is not listed.
- Chemicals known to cause reproductive toxicity for males: Substance is not listed.
- Chemicals known to cause developmental toxicity: Substance is not listed.

- Carcinogenic categories
- EPA (Environmental Protection Agency): Substance is not listed.
- TLV (Threshold Limit Value established by ACGIH): Substance is not listed.
- NIOSH-Ca (National Institute for Occupational Safety and Health): Substance is not listed.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Environment protection department.
- Contact: -
- Date of preparation / last revision: 03/08/2021 / -
- Abbreviations and acronyms:
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  EINECS: European Inventory of Existing Commercial Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  NIOSH: National Institute for Occupational Safety
  OSHA: Occupational Safety & Health
  TLV: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit
  Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2