1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** 1,8-Dinitronaphthalene
- **Part number:** RNH-141
- **CAS Number:** 602-38-0
- **EC number:** 210-016-1

- **Relevant identified uses of the substance or mixture and uses advised against**
  Reagents and Standards for Analytical Chemical Laboratory Use

- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** Agilent Technologies Manufacturing GmbH & Co. KG
  Hewlett-Packard-Str.8
  76337 Waldbronn
  Germany

- **Further information obtainable from:**
  Telephone: 0800 603 1000
  pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**

  ![GHS08 health hazard]
  Muta. 2 H341 Suspected of causing genetic defects.

  ![GHS07]
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2 H319 Causes serious eye irritation.
  STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
  The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**

  ![GHS07 GHS08]

- **Signal word** Warning

- **Hazard-determining components of labelling:**
  1,8-dinitronaphthalene

(Contd. on page 2)
Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H335 May cause respiratory irritation.

Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

3 Composition/information on ingredients

Chemical characterisation: Substances
CAS No. Description
602-38-0 1,8-dinitronaphthalene
Identification number(s)
EC number: 210-016-1

4 First aid measures

Description of first aid measures
General information: Immediately remove any clothing soiled by the product.
After inhalation: In case of unconsciousness place patient stably in side position for transportation.
After skin contact: Immediately wash with water and soap and rinse thoroughly.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
## 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**: Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture**: No further relevant information available.
- **Advice for firefighters**
- **Protective equipment**: No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**: Not required.
- **Environmental precautions**: Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up**
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
- **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.

## 7 Handling and storage

- **Handling**
- **Precautions for safe handling**
  - Ensure good ventilation/exhaustion at the workplace.
  - Open and handle receptacle with care.
- **Information about fire - and explosion protection**: Keep respiratory protective device available.
- **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**: Keep container tightly sealed.
  - **Specific end use(s)**: No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical facilities**: No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace**: Not required.
- **Additional information**: The lists valid during the making were used as basis.
· Exposure controls
· Personal protective equipment:
· General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing
  Wash hands before breaks and at the end of work.
  Store protective clothing separately.
  Avoid contact with the eyes and skin.
· Respiratory protection:
  When used as intended with Agilent instruments the use of the product under normal laboratory conditions and
  with standard practices does not result in significant airborne exposures and therefore respiratory protection is not
  needed.
  Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved
  device equipment with appropriate organic or acid gas cartridge.
· Protection of hands:
  Although not recommended for constant contact with the chemicals or for clean up, nitrile gloves 11-13mil
  thickness are recommended for normal use. The breakthrough time is 1hr. For cleaning a spill where there is direct
  contact of the chemical, butyl rubber gloves are recommended 12-15mil thickness with breakthrough times
  exceeding 4 hrs. Supplier recommendations should be followed.
· Material of gloves
  For normal use: nitrile rubber, 11-13 mil thickness
  For direct contact with the chemical: butyl rubber, 12-15 mil thickness
  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
  For normal use: nitrile rubber: 1 hour
  For direct contact with the chemical: butyl rubber: > 4 hours
· Eye protection:
  Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:
  Form: Crystalline powder
  Colour: Light yellow
· Odour: Characteristic
· Odour threshold: Not determined.
· pH-value: Not applicable.
· Change in condition
  Melting point/freezing point: 173 °C
  Initial boiling point and boiling range: Undetermined.
· Flash point: Not applicable.
Trade name: 1,8-Dinitronaphthalene

- Flammability (solid, gas): Product is not flammable.
- Decomposition temperature: Not determined.
- Auto-ignition temperature: Not determined.
- Explosive properties: Product does not present an explosion hazard.

- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.
- Vapour pressure: Not applicable.
- Density: Not determined.
- Relative density: Not determined.
- Vapour density: Not applicable.
- Evaporation rate: Not applicable.
- Solubility in / Miscibility with water: Insoluble.
- Partition coefficient: n-octanol/water: Not determined.

- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.
- Solvent content:
  - VOC (EC): 0.00 %
- Solids content: 100.0 %
- Other information: No further relevant information available.

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: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity: Based on available data, the classification criteria are not met.
- Primary irritant effect:
- Skin corrosion/irritation: Causes skin irritation.
- Serious eye damage/irritation: Causes serious eye irritation.
- Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
Safety data sheet  
according to 1907/2006/EC, Article 31

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Version number 2

Trade name: 1,8-Dinitronaphthalene

- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity
  Suspected of causing genetic defects.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure
  May cause respiratory irritation.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behaviour in environmental systems:
    - Bioaccumulative potential: No further relevant information available.
    - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - 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 together with household garbage. Do not allow product to reach sewage system.

- European waste catalogue
  - HP 4 Irritant - skin irritation and eye damage
  - HP 5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
  - HP 11 Mutagenic

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - ADR, ADN, IMDG, IATA: not regulated

- UN proper shipping name
  - ADR, ADN, IMDG, IATA: not regulated
Trade name: 1,8-Dinitronaphthalene

<table>
<thead>
<tr>
<th>· Transport hazard class(es)</th>
<th>· ADR, ADN, IMDG, IATA</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Packing group</td>
<td>· ADR, IMDG, IATA</td>
<td>not regulated</td>
</tr>
<tr>
<td>· Environmental hazards:</td>
<td></td>
<td></td>
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<tr>
<td>· Special precautions for user</td>
<td></td>
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</tr>
<tr>
<td>· Transport in bulk according to Annex II of Marpol and the IBC Code</td>
<td>Not applicable.</td>
<td></td>
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<tr>
<td>· UN &quot;Model Regulation&quot;:</td>
<td></td>
<td>not regulated</td>
</tr>
</tbody>
</table>

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Directive 2012/18/EU
· Named dangerous substances - ANNEX I Substance is not listed.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Department issuing SDS: Document Control / Regulatory
· Contact: regulatory@ultrasci.com
· Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  IATA: International Air Transport Association
  GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  EINECS: European Inventory of Existing Commercial Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  VOC: Volatile Organic Compounds (USA, EU)
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
  Muta. 2: Germ cell mutagenicity – Category 2
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3