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

1.1. Product identifier

Product name: CARTRIDGE Hg(NO₃)₂ 2.570N
Product code: DT014-03

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Company name: Orbeco-Hellige, Inc.
6456 Parkland Drive
Sarasota
Florida
34243
United States
Tel: (941) 756-6410
Email: service@orbeco.com

1.4. Emergency telephone number

Emergency tel: (703) 527-3887

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: T+: R26/27/28; Xn: R33; N: R50/53
Classification under CLP: Acute Tox. 1: H310; Acute Tox. 1: H330; Acute Tox. 3: H301; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Skin Corr. 1B: H314; STOT RE 2: H373

Most important adverse effects: Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Label elements under CLP:

Hazard statements: H301: Toxic if swallowed.
H310: Fatal in contact with skin.
H314: Causes severe skin burns and eye damage.
H330: Fatal if inhaled.
H373: May cause damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
SAFETY DATA SHEET
CARTRIDGE Hg(NO₃)₂ 2.570N

Signal words: Danger
Hazard pictograms:
- GHS05: Corrosion
- GHS06: Skull and crossbones
- GHS08: Health hazard
- GHS09: Environmental

Precautionary statements:
- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P284: Wear respiratory protection.
- P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310: Immediately call a POISON CENTER or doctor.
- P314: Get medical attention if you feel unwell.
- P320: Specific treatment is urgent (see on this label).

Label elements under CHIP:

Hazard symbols: Very toxic.
- Dangerous for the environment.

Risk phrases:
- R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
- R33: Danger of cumulative effects.
- R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:
- S28: After contact with skin, wash immediately with plenty of.
- S36/37/39: Wear suitable protective clothing, gloves and eye / face protection.
- S38: In case of insufficient ventilation, wear suitable respiratory equipment.
- S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S61: Avoid release to the environment. Refer to special instructions / safety data sheets.
- S63: In case of accident by inhalation, remove casualty to fresh air and keep at rest.

2.3. Other hazards
PBT: This substance is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:
MERCURY (II) NITRATE
SAFETY DATA SHEET
CARTRIDGE Hg(NO₃)₂ 2.570N

<table>
<thead>
<tr>
<th>EINECS</th>
<th>CAS</th>
<th>CHIP Classification</th>
<th>CLP Classification</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>7783-34-8</td>
<td>T+: R26/27/28; Xn: R33; N: R50/53</td>
<td>-</td>
<td>40-60%</td>
</tr>
</tbody>
</table>

NITRIC ACID

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>231-714-2</td>
<td>7697-37-2</td>
<td>O: R8; C: R35</td>
<td>Ox. Liq. 3: H272; Skin Corr. 1A: H314</td>
<td>1-5%</td>
</tr>
</tbody>
</table>

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.

Eye contact: Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.

Inhalation: Remove casualty from exposure ensuring one’s own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If unconscious, check for breathing and apply artificial respiration if necessary. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.

4.2. Most important symptoms and effects, both acute and delayed

Skin contact: There may be redness or whiteness of the skin in the area of exposure. Irritation or pain may occur at the site of contact. Absorption through the skin may be fatal.

Eye contact: There may be severe pain. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat. There may be vomiting. Convulsions may occur. There may be loss of consciousness.

Inhalation: There may be shortness of breath with a burning sensation in the throat. Absorption through the lungs can occur causing symptoms similar to those of ingestion. Convulsions may occur. There may be loss of consciousness.

Delayed / immediate effects: No data available.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Show this safety data sheet to the doctor in attendance.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.
5.2. Special hazards arising from the substance or mixture


5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Notify the police and fire brigade immediately. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is exhaust ventilation of the area. Avoid the formation or spread of mists in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed. The floor of the storage room must be impermeable to prevent the escape of liquids.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection
SAFETY DATA SHEET
CARTRIDGE Hg(NO₃)₂ 2.570N

| 8.1. Control parameters |

Hazardous ingredients:

NITRIC ACID...100%

<table>
<thead>
<tr>
<th>Workplace exposure limits:</th>
<th>Respirable dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 hour TWA:</td>
<td>15 min. STEL:</td>
</tr>
<tr>
<td>UK</td>
<td>5.2 mg/m³</td>
</tr>
<tr>
<td>10 mg/m³</td>
<td>-</td>
</tr>
<tr>
<td>8 hour TWA:</td>
<td>15 min. STEL:</td>
</tr>
<tr>
<td>UK</td>
<td>-</td>
</tr>
<tr>
<td>10 mg/m³</td>
<td>-</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Engineering measures: Ensure there is exhaust ventilation of the area. The floor of the storage room must be impermeable to prevent the escape of liquids.

Respiratory protection: Self-contained breathing apparatus must be available in case of emergency.

Hand protection: Protective gloves (EN374).

Eye protection: Safety glasses (EN166). Ensure eye bath is to hand.

Skin protection: Impermeable protective clothing.

Environmental: Refer to specific Member State legislation for requirements under Community environmental legislation.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Colourless

Odour: Similar to Nitric Acid.

Solubility in water: Miscible

Viscosity: Non-viscous

Boiling point/range°C: >35

Flash point°C: >93

pH: <7

9.2. Other information

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions.

[cont...]
SAFETY DATA SHEET
CARTRIDGE Hg(NO$_3$)$_2$ 2.570N

10.4. Conditions to avoid


10.5. Incompatible materials

Materials to avoid: Strong oxidising agents.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of nitrogen oxides. Mercury oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Route</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (very toxic)</td>
<td>INH DRM ING</td>
<td>Hazardous: calculated</td>
</tr>
<tr>
<td>Repeated dose toxicity</td>
<td>--</td>
<td>Hazardous: calculated</td>
</tr>
</tbody>
</table>

Symptoms / routes of exposure

**Skin contact:** There may be redness or whiteness of the skin in the area of exposure. Irritation or pain may occur at the site of contact. Absorption through the skin may be fatal.

**Eye contact:** There may be severe pain. The eyes may water profusely.

**Ingestion:** There may be soreness and redness of the mouth and throat. There may be vomiting. Convulsions may occur. There may be loss of consciousness.

**Inhalation:** There may be shortness of breath with a burning sensation in the throat. Absorption through the lungs can occur causing symptoms similar to those of ingestion. Convulsions may occur. There may be loss of consciousness.

**Delayed / immediate effects:** No data available.

Section 12: Ecological information

12.1. Toxicity

12.2. Persistence and degradability

Persistence and degradability: No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential: Bioaccumulation potential.

12.4. Mobility in soil

Mobility: No data available.

(cont...)
12.5. Results of PBT and vPvB assessment

PBT identification: This substance is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: Toxic to aquatic organisms. Toxic to soil organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.
Recovery operations: Not applicable.
Waste code number: 16 05 06
Disposal of packaging: Arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN3287

14.2. UN proper shipping name

Shipping name: TOXIC LIQUID, INORGANIC, N.O.S. (MERCURY (II) NITRATE)

14.3. Transport hazard class(es)

Transport class: 6.1

14.4. Packing group

Packing group: II

14.5. Environmental hazards

Environmentally hazardous: Yes
Marine pollutant: No

14.6. Special precautions for user

Section 15: Regulatory information

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

15.2. Chemical Safety Assessment

Chemical safety assessment: A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

[cont...]
Section 16: Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and 3:

- H272: May intensify fire; oxidiser.
- H301: Toxic if swallowed.
- H310: Fatal in contact with skin.
- H314: Causes severe skin burns and eye damage.
- H330: Fatal if inhaled.
- H373: May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- R8: Contact with combustible material may cause fire.
- R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.
- R33: Danger of cumulative effects.
- R35: Causes severe burns.
- R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Legal disclaimer: Alteration to this document is strictly prohibited. The format and formulas contained within this document comply with UK laws and legislation. Every effort has been made to ensure that the information in this MSDS is accurate. However some labels printed before the date on this document may have conflicting hazard information that can be disregarded in favour of the information as detailed above.