SAFETY DATA SHEET

Netobimin (5%) Formulation

Version 2.1  Revision Date: 12.05.2020  SDS Number: 5840506-00002  Date of last issue: 04.05.2020

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Netobimin (5%) Formulation

Manufacturer or supplier’s details
Company: MSD
Address: Briahnager - Off Pune Nagar Road Wagholi - Pune - India 412 207
Telephone: +1-908-740-4000
Emergency telephone number: +1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification
Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

GHS Classification
Acute toxicity (Inhalation): Category 4
Reproductive toxicity: Category 2
Specific target organ toxicity - repeated exposure (Oral): Category 2 (Testis, Liver, Skin, Gastrointestinal tract)

GHS label elements
Hazard pictograms: 
Signal word: Warning
Hazard statements: H332 Harmful if inhaled. H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs (Testis, Liver, Skin, Gastrointestinal tract) through prolonged or repeated exposure if swallowed.
Precautionary statements: Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:
P405 Store locked up.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
</table>

**Components**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netobimin</td>
<td>88255-01-0</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

If inhaled: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

If swallowed: If swallowed, DO NOT induce vomiting. Get medical attention.
### Most important symptoms and effects, both acute and delayed
- Rinse mouth thoroughly with water.
- Harmful if inhaled.
- Suspected of damaging fertility. Suspected of damaging the unborn child.
- May cause damage to organs through prolonged or repeated exposure if swallowed.

### Protection of first-aiders
- First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

### Notes to physician
- Treat symptomatically and supportively.

### 5. FIREFIGHTING MEASURES

#### Suitable extinguishing media
- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO2)
- Dry chemical

#### Unsuitable extinguishing media
- None known.

#### Specific hazards during firefighting
- Exposure to combustion products may be a hazard to health.

#### Hazardous combustion products
- Carbon oxides
- Nitrogen oxides (NOx)
- Sulphur compounds

#### Specific extinguishing methods
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do so.
- Evacuate area.

#### Special protective equipment for firefighters
- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures
- Use personal protective equipment.
- Follow safe handling advice and personal protective equipment recommendations.

#### Environmental precautions
- Discharge into the environment must be avoided.
- Prevent further leakage or spillage if safe to do so.
- Prevent spreading over a wide area (e.g. by containment or oil barriers).
- Retain and dispose of contaminated wash water.
- Local authorities should be advised if significant spillages cannot be contained.

#### Methods and materials for containment and cleaning up
- Soak up with inert absorbent material.
- For large spills, provide dyeing or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
- Clean up remaining materials from spill with suitable absorbent.
- Local or national regulations may apply to releases and dis-
posal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Technical measures: See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation.
Advice on safe handling:
Do not breathe vapours or spray mist.
Do not swallow.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage:
Keep in properly labelled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.

Materials to avoid:
Do not store with the following product types:
Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
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<tbody>
<tr>
<td>Netobimin</td>
<td>88255-01-0</td>
<td>TWA</td>
<td>20 ug/m3 (OEB 3)</td>
<td>Internal</td>
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</table>

Further information: Skin

Wipe limit 200 ug/100cm3 Internal

Engineering measures:
Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
Minimize open handling.
Personal protective equipment

Respiratory protection: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type: Particulates type

Hand protection

Material: Chemical-resistant gloves

Remarks: Consider double gloving.

Eye protection: Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection: Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially contaminated clothing.

Hygiene measures: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.

When using do not eat, drink or smoke.

Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: suspension

Colour: yellow

Odour: No data available

Odour Threshold: No data available

pH: 4.5 - 6.5

Melting point/freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas): Not applicable
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</table>

- **Flammability (liquids):** No data available
- **Upper explosion limit / Upper flammability limit:** No data available
- **Lower explosion limit / Lower flammability limit:** No data available
- **Vapour pressure:** No data available
- **Relative vapour density:** No data available
- **Relative density:** No data available
- **Density:** 1,054 g/cm³
- **Solubility(ies):**
  - **Water solubility:** No data available
- **Partition coefficient: n-octanol/water:** Not applicable
- **Auto-ignition temperature:** No data available
- **Decomposition temperature:** No data available
- **Viscosity:**
  - **Viscosity, kinematic:** No data available
- **Explosive properties:** Not explosive
- **Oxidizing properties:** The substance or mixture is not classified as oxidizing.
- **Molecular weight:** No data available
- **Particle size:** Not applicable

**10. STABILITY AND REACTIVITY**

- **Reactivity:** Not classified as a reactivity hazard.
- **Chemical stability:** Stable under normal conditions.
- **Possibility of hazardous reactions:** Can react with strong oxidizing agents.
- **Conditions to avoid:** None known.
- **Incompatible materials:** Oxidizing agents
- **Hazardous decomposition products:** No hazardous decomposition products are known.

**11. TOXICOLOGICAL INFORMATION**

- **Information on likely routes of exposure:** Inhalation, Skin contact, Ingestion
Eye contact

**Acute toxicity**

Harmful if inhaled.

**Product:**

- **Acute oral toxicity:** Acute toxicity estimate: > 5,000 mg/kg
  - Method: Calculation method
- **Acute inhalation toxicity:** Acute toxicity estimate: 3.8 mg/l
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
  - Method: Calculation method

**Components:**

- **Netobimin:**
  - **Acute oral toxicity:** LD50 (Rat): > 2,000 mg/kg
  - **Acute inhalation toxicity:** LCLo (Rat): 0.19 mg/l
    - Test atmosphere: dust/mist

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

- **Netobimin:**
  - **Species:** Rabbit
  - **Method:** Draize Test
  - **Result:** Mild skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:**

- **Netobimin:**
  - **Species:** Rabbit
  - **Method:** Draize Test
  - **Result:** Mild eye irritation

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.
**Components:**

### Netobimin:

**Genotoxicity in vitro**

- **Test Type:** Bacterial reverse mutation assay (AMES)
  - **Result:** negative

- **Test Type:** DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
  - **Result:** negative

- **Test Type:** In vitro mammalian cell gene mutation test
  - **Test system:** mouse lymphoma cells
  - **Result:** negative

**Genotoxicity in vivo**

- **Test Type:** Micronucleus test
  - **Species:** Mouse
  - **Cell type:** Bone marrow
  - **Result:** positive

**Carcinogenicity**

Not classified based on available information.

### Components:

#### Netobimin:

**Species**

- **Rat**

**Application Route**

- **Oral**

**Exposure time**

- **1 Years**

**Remarks**

- No significant adverse effects were reported

**Reproductive toxicity**

Suspected of damaging fertility. Suspected of damaging the unborn child.

### Components:

#### Netobimin:

**Effects on fertility**

- **Test Type:** Two-generation study
  - **Species:** Rat
  - **Application Route:** Oral
  - **General Toxicity F1:** NOAEL: 15 mg/kg body weight
  - **Result:** Maternal effects

**Effects on foetal development**

- **Test Type:** Development
  - **Species:** Rat
  - **Application Route:** Oral
  - **Developmental Toxicity:** NOAEL: 91 mg/kg body weight

  - **Test Type:** Development
    - **Species:** Rat
    - **Application Route:** Oral
    - **Developmental Toxicity:** LOAEL: 228 mg/kg body weight
    - **Result:** Teratogenic effects, Maternal toxicity observed, Fetal toxicity
Test Type: Development  
Application Route: Oral  
Developmental Toxicity: NOAEL: 22 mg/kg body weight

Test Type: Development  
Application Route: Oral  
Developmental Toxicity: LOAEL: 60 mg/kg body weight  
Target Organs: Testes  
Result: Fetotoxicity

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 15 mg/kg body weight

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: LOAEL: 25 mg/kg body weight  
Result: Fetotoxicity, Maternal toxicity observed., Teratogenic effects

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 5 mg/kg body weight  
Result: Teratogenicity and developmental toxicity

Reproductive toxicity - Assessment : Suspected of damaging fertility. Suspected of damaging the unborn child.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

May cause damage to organs (Testis, Liver, Skin, Gastrointestinal tract) through prolonged or repeated exposure if swallowed.

Components:

Netobimin:

Exposure routes : Oral  
Target Organs : Testis, Liver, Skin, Gastrointestinal tract  
Assessment : Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Repeated dose toxicity

Components:

Netobimin:

Species : Rat  
NOAEL : 60 mg/kg  
Application Route : Oral
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Exposure time: 1 yr
Target Organs: Testis
Symptoms: male reproductive effects

Species: Rat
LOAEL: 15 mg/kg
Application Route: Oral
Exposure time: 1 yr
Target Organs: Liver
Symptoms: Irregularities
Remarks: Based on data from similar materials

Species: Rat
NOAEL: 7 mg/kg
Application Route: Oral
Exposure time: 1 yr
Target Organs: Skin
Symptoms: Irregularities

Species: Rat
LOAEL: 38 mg/kg
Application Route: Oral
Exposure time: 90 d
Target Organs: Skin, Testis
Symptoms: Irregularities, male reproductive effects

Species: Dog
Application Route: Oral
Exposure time: 90 d
Target Organs: Gastrointestinal tract
Symptoms: Diarrhoea, Vomiting

Aspiration toxicity
Not classified based on available information.

Experience with human exposure

Components:

Netobimin:
Ingestion: Symptoms: The most common side effects are: Dizziness, Headache, Abdominal pain, Gastrointestinal discomfort, Vomiting

12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available
Mobility in soil
No data available

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to IMO instruments
Not applicable for product as supplied.

15. REGULATORY INFORMATION

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

The components of this product are reported in the following inventories:
AICS: not determined
DSL: not determined
IECSC: not determined

16. OTHER INFORMATION

Further information

Date format: dd.mm.yyyy

Full text of other abbreviations
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

IN / EN