

**Netobimin Formulation**

Version 2.6      Revision Date: 30.09.2023      SDS Number: 5840438-00008      Date of last issue: 04.04.2023  
Date of first issue: 04.05.2020

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**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Netobimin Formulation

**Manufacturer or supplier's details**

Company : MSD  
Address : 50 Tuas West Drive  
Singapore - Singapore 638408  
Telephone : +1-908-740-4000  
Emergency telephone number : 65 6697 2111 (24/7/365)  
E-mail address : EHSDATASTEWARD@msd.com

**Recommended use of the chemical and restrictions on use**


Recommended use : Veterinary product  
Restrictions on use : Not applicable

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**2. HAZARDS IDENTIFICATION****GHS Classification**

Acute toxicity (Inhalation) : Category 4  
Serious eye damage/eye irritation : Category 2  
Reproductive toxicity : Category 2  
Specific target organ toxicity - repeated exposure (Oral) : Category 1 (Testis, Liver, Skin, Gastrointestinal tract)

**GHS label elements**

Hazard pictograms : 

Signal word : Danger

Hazard statements : H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
H372 Causes damage to organs (Testis, Liver, Skin, Gastrointestinal tract) through prolonged or repeated exposure if swal-

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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.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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.

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.

P337 + P313 If eye irritation persists: 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

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Netobimin	88255-01-0	>= 10 -< 20

### 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.

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		<p>If not breathing, give artificial respiration.          If breathing is difficult, give oxygen.          Get medical attention.</p>
In case of skin contact	:	<p>In case of contact, immediately flush skin with plenty of water.          Remove contaminated clothing and shoes.          Get medical attention.          Wash clothing before reuse.          Thoroughly clean shoes before reuse.</p>
In case of eye contact	:	<p>In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.          If easy to do, remove contact lens, if worn.          Get medical attention.</p>
If swallowed	:	<p>If swallowed, DO NOT induce vomiting.          Get medical attention.          Rinse mouth thoroughly with water.</p>
Most important symptoms and effects, both acute and delayed	:	<p>Causes serious eye irritation.          Harmful if inhaled.          Suspected of damaging fertility. Suspected of damaging the unborn child.          Causes damage to organs through prolonged or repeated exposure if swallowed.</p>
Protection of first-aiders	:	<p>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).</p>
Notes to physician	:	<p>Treat symptomatically and supportively.</p>

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**5. FIREFIGHTING MEASURES**

Suitable extinguishing media	:	<p>Water spray          Alcohol-resistant foam          Carbon dioxide (CO<sub>2</sub>)          Dry chemical</p>
Unsuitable extinguishing media	:	<p>None known.</p>
Specific hazards during fire-fighting	:	<p>Exposure to combustion products may be a hazard to health.</p>
Hazardous combustion products	:	<p>Carbon oxides          Nitrogen oxides (NO<sub>x</sub>)          Sulphur compounds</p>
Specific extinguishing methods	:	<p>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.</p>
Special protective equipment for firefighters	:	<p>In the event of fire, wear self-contained breathing apparatus.          Use personal protective equipment.</p>

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**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency	:	<p>Use personal protective equipment.          Follow safe handling advice (see section 7) and personal pro-</p>
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- gency procedures : tective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.  
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 dyking 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 disposal 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.

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### 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 get on skin or clothing.  
Do not breathe mist or vapours.  
Do not swallow.  
Do not get in eyes.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Keep container tightly closed.  
Do not eat, drink or smoke when using this product.  
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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Netobimin	88255-01-0	TWA	20 ug/m3 (OEB 3)	Internal
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,

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appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

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**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
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	:	1,070 - 1,085 g/cm <sup>3</sup>
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	:	

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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

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**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.

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**11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
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**Acute toxicity**

Harmful if inhaled.

**Product:**

Acute inhalation toxicity	:	Acute toxicity estimate: 1.27 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
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**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.

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**Components:****Netobimin:**

Species : Rabbit  
Method : Draize Test  
Result : Mild skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****Netobimin:**

Species : Rabbit  
Result : Mild eye irritation  
Method : Draize Test

**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.



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**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., Fetotoxicity

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

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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

Causes 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  
 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

Species : Rat  
 NOAEL : 7 mg/kg  
 Application Route : Oral  
 Exposure time : 1 yr  
 Target Organs : Skin  
 Symptoms : Irregularities  
 Remarks : Based on data from similar materials

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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
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**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

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**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues	:	Do not dispose of waste into sewer. 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.

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### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable
Subsidiary risk	: Not applicable
Packing group	: Not applicable
Labels	: Not applicable

##### IATA-DGR

UN/ID No.	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable
Subsidiary risk	: Not applicable
Packing group	: Not applicable
Labels	: Not applicable
Packing instruction (cargo aircraft)	: Not applicable
Packing instruction (passenger aircraft)	: Not applicable

##### IMDG-Code

UN number	: Not applicable
Proper shipping name	: Not applicable
Class	: Not applicable
Subsidiary risk	: Not applicable
Packing group	: Not applicable
Labels	: Not applicable
EmS Code	: Not applicable
Marine pollutant	: Not applicable

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### Special precautions for user

Not applicable

### 15. REGULATORY INFORMATION

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

**Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.**

Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations	: Not applicable
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Fire Safety (Petroleum and Flammable Materials)	: Not applicable
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Regulations

**The components of this product are reported in the following inventories:**

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

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**16. OTHER INFORMATION**

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**Further information**Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : dd.mm.yyyy

**Full text of other abbreviations**

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Sub-

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stances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

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