

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 21.09.2023  
4.0 05.10.2023 24923-00026 Date of first issue: 23.10.2014

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Emamectin 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  
Restrictions on use : Not applicable

## 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

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

## GHS label elements

## Hazard pictograms



Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P273 Avoid release to the environment

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version  
4.0

Revision Date:  
05.10.2023

SDS Number:  
24923-00026

Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

### Response:

P391 Collect spillage.

### Disposal:

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

### Other hazards which do not result in classification

Dust contact with the eyes can lead to mechanical irritation.

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

| Chemical name | CAS-No.     | Concentration (% w/w) |
|---------------|-------------|-----------------------|
| Starch        | 9005-25-8   | >= 30 - < 50          |
| Emamectin     | 137512-74-4 | >= 0.1 - < 0.25       |

## 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.

Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap.

Get medical attention if symptoms occur.

In case of eye contact : If in eyes, rinse well with water.

Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.

Get medical attention if symptoms occur.

Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Contact with dust can cause mechanical irritation or drying of the skin.

Dust contact with the eyes can lead to mechanical irritation.

Protection of first-aiders : No special precautions are necessary for first aid responders.

Notes to physician : Treat symptomatically and supportively.

## 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : None known.

Specific hazards during fire- : Avoid generating dust; fine dust dispersed in air in sufficient

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version 4.0      Revision Date: 05.10.2023      SDS Number: 24923-00026      Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

---

|                                               |                                                                                                                                                                                                                                                   |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| fighting                                      | concentrations, and in the presence of an ignition source is a potential dust explosion hazard.<br>Exposure to combustion products may be a hazard to health.                                                                                     |
| Hazardous combustion products                 | : Carbon oxides                                                                                                                                                                                                                                   |
| Specific extinguishing methods                | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary.<br>Use personal protective equipment.                                                                                                                                    |

## 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Environmental precautions                                           | : Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Methods and materials for containment and cleaning up               | : Sweep up or vacuum up spillage and collect in suitable container for disposal.<br>Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).<br>Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.<br>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.<br>Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

## 7. HANDLING AND STORAGE

|                                                    |                                                                                                                                                                                                     |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical measures                                 | : Static electricity may accumulate and ignite suspended dust causing an explosion.<br>Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.                |
| Local/Total ventilation<br>Advice on safe handling | : Use only with adequate ventilation.<br>: Do not breathe dust.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment |

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version  
4.0

Revision Date:  
05.10.2023

SDS Number:  
24923-00026

Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

|                             |                                                                                                                                                                                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             | Minimize dust generation and accumulation.<br>Keep container closed when not in use.<br>Keep away from heat and sources of ignition.<br>Take precautionary measures against static discharges.<br>Take care to prevent spills, waste and minimize release to the environment. |
| Conditions for safe storage | : Keep in properly labelled containers.<br>Store in accordance with the particular national regulations.                                                                                                                                                                      |
| Materials to avoid          | : Do not store with the following product types:<br>Strong oxidizing agents                                                                                                                                                                                                   |

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

| Components                | CAS-No.     | Value type<br>(Form of<br>exposure) | Control parame-<br>ters / Permissible<br>concentration | Basis    |
|---------------------------|-------------|-------------------------------------|--------------------------------------------------------|----------|
| Starch                    | 9005-25-8   | TWA                                 | 10 mg/m <sup>3</sup>                                   | ACGIH    |
| Emamectin                 | 137512-74-4 | TWA                                 | 15 µg/m <sup>3</sup> (OEB 3)                           | Internal |
| Further information: Skin |             |                                     |                                                        |          |
|                           |             | Wipe limit                          | 150 µg/100 cm <sup>2</sup>                             | Internal |

### Engineering measures

- : 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.<br>If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.<br>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.<br>Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.<br>Use appropriate degowning techniques to remove potentially                                           |

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version  
4.0

Revision Date:  
05.10.2023

SDS Number:  
24923-00026

Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hygiene measures | contaminated clothing.<br>: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use.<br>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                                       | : powder                                                                          |
| Colour                                           | : white                                                                           |
| Odour                                            | : No data available                                                               |
| Odour Threshold                                  | : No data available                                                               |
| pH                                               | : No data available                                                               |
| 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)                        | : May form explosive dust-air mixture during processing, handling or other means. |
| 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                                                               |
| Solubility(ies)                                  |                                                                                   |
| Water solubility                                 | : soluble                                                                         |
| Partition coefficient: n-octanol/water           | : No data available                                                               |

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version 4.0 Revision Date: 05.10.2023 SDS Number: 24923-00026 Date of last issue: 21.09.2023 Date of first issue: 23.10.2014

---

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 : No data available

---

## 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : May form explosive dust-air mixture during processing, handling or other means.  
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.  
Avoid dust formation.

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

Not classified based on available information.

#### Product:

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 10 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

#### Components:

##### **Starch:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version 4.0      Revision Date: 05.10.2023      SDS Number: 24923-00026      Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

---

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

### Emamectin:

Acute oral toxicity : LD50 (Rat): 76 - 78 mg/kg  
Symptoms: Irritability, Salivation, Lachrymation, Tremors  
  
LD50 (Mouse): 22 - 31 mg/kg  
Symptoms: Tremors  
  
TDLo (Rat): 0.5 - 25 mg/kg  
Target Organs: Central nervous system, Peripheral nervous system

Acute inhalation toxicity : LC50 (Rat, male and female): > 0.663 - 1.049 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
  
LD0 (Rabbit): 500 - 1,000 mg/kg  
Target Organs: Peripheral nervous system, Central nervous system  
Symptoms: Tremors, Dilatation of the pupil

### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### Emamectin:

Species : Rabbit  
Result : Mild skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

### Components:

#### Starch:

Species : Rabbit  
Result : No eye irritation

#### Emamectin:

Species : Rabbit  
Result : Irreversible effects on the eye

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version  
4.0

Revision Date:  
05.10.2023

SDS Number:  
24923-00026

Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### **Starch:**

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : negative

##### **Emamectin:**

Test Type : Local lymph node assay (LLNA)  
Exposure routes : Skin contact  
Species : Mouse  
Assessment : Does not cause skin sensitisation.  
Result : negative

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### **Starch:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

##### **Emamectin:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster lung cells  
Result: negative

Test Type: Chromosomal aberration  
Test system: Chinese hamster ovary cells  
Result: negative

Test Type: Alkaline elution assay  
Test system: rat hepatocytes  
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay  
Species: Mouse  
Cell type: Bone marrow  
Result: negative

### Carcinogenicity

Not classified based on available information.

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version 4.0      Revision Date: 05.10.2023      SDS Number: 24923-00026      Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

---

### Components:

#### **Emamectin:**

|                   |   |                              |
|-------------------|---|------------------------------|
| Species           | : | Mouse                        |
| Application Route | : | Oral                         |
| Exposure time     | : | 79 weeks                     |
| Dose              | : | 0.5 - 7.5 mg/kg body weight  |
| Result            | : | negative                     |
| Species           | : | Rat                          |
| Application Route | : | Oral                         |
| Exposure time     | : | 105 weeks                    |
| Dose              | : | 0.25 - 2.5 mg/kg body weight |
| Result            | : | negative                     |

### **Reproductive toxicity**

Not classified based on available information.

### Components:

#### **Emamectin:**

|                               |   |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility          | : | Test Type: Two-generation reproduction toxicity study<br>Species: Rat, male and female<br>Application Route: oral (feed)<br>General Toxicity - Parent: NOAEL: 0.6 mg/kg body weight<br>Fertility: NOAEL Parent: 0.6 mg/kg body weight<br>Early Embryonic Development: LOAEL F1: 0.6 mg/kg body weight<br>Symptoms: Effect on reproduction capacity, Effects on fertility, Effects on F1 offspring<br>Result: positive |
| Effects on foetal development | : | Test Type: Development<br>Species: Rabbit<br>Application Route: Oral<br>Duration of Single Treatment: 12 d<br>General Toxicity Maternal: NOAEL: 3 mg/kg body weight<br>Developmental Toxicity: NOAEL F1: 6 mg/kg body weight<br>Result: No teratogenic effects, Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses                                            |
|                               |   | Test Type: Development<br>Species: Rat<br>Application Route: Oral<br>Duration of Single Treatment: 13 d<br>Developmental Toxicity: NOAEL F1: 4 mg/kg body weight<br>Result: No teratogenic effects, Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses                                                                                                        |

### **STOT - single exposure**

Not classified based on available information.

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 21.09.2023  
4.0 05.10.2023 24923-00026 Date of first issue: 23.10.2014

## **Components:**

## Emamectin:

|                 |   |                                                   |
|-----------------|---|---------------------------------------------------|
| Exposure routes | : | Ingestion, Skin contact                           |
| Target Organs   | : | Peripheral nervous system, Central nervous system |
| Assessment      | : | Causes damage to organs.                          |

## STOT - repeated exposure

Not classified based on available information.

## Components:

## Emamectin:

Target Organs : Peripheral nervous system, Central nervous system  
Assessment : Causes damage to organs through prolonged or repeated exposure.

## Repeated dose toxicity

## Components:

## Starch-

Species : Rat  
NOAEL :  $\geq 2,000 \text{ mg/kg}$   
Application Route : Skin contact  
Exposure time : 28 Days  
Method : OECD Test Guideline 410

## Emamectin·

|                   |   |                        |
|-------------------|---|------------------------|
| Species           | : | Rat                    |
| NOAEL             | : | 0.25 mg/kg             |
| LOAEL             | : | 1 mg/kg                |
| Application Route | : | Oral                   |
| Exposure time     | : | 105 Weeks              |
| Target Organs     | : | Central nervous system |

|                   |                             |
|-------------------|-----------------------------|
| Species           | : Mouse                     |
| NOAEL             | : 2.5 mg/kg                 |
| LOAEL             | : 12.5 mg/kg                |
| Application Route | : Oral                      |
| Exposure time     | : 79 Weeks                  |
| Target Organs     | : Peripheral nervous system |
| Symptoms          | : Tremors, Fatality         |

|                   |   |                                                   |
|-------------------|---|---------------------------------------------------|
| Species           | : | Dog                                               |
| NOAEL             | : | 0.25 mg/kg                                        |
| LOAEL             | : | 0.5 mg/kg                                         |
| Application Route | : | Oral                                              |
| Exposure time     | : | 53 Weeks                                          |
| Target Organs     | : | Peripheral nervous system, Central nervous system |
| Symptoms          | : | Tremors, Dilatation of the pupil                  |

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 21.09.2023  
4.0 05.10.2023 24923-00026 Date of first issue: 23.10.2014

## Aspiration toxicity

Not classified based on available information.

## Experience with human exposure

## Components:

## Emamectin:

|             |                                                                                                    |
|-------------|----------------------------------------------------------------------------------------------------|
| Eye contact | : Symptoms: Severe irritation<br>Remarks: Based on Animal Evidence                                 |
| Ingestion   | : Target Organs: Gastro-intestinal system<br>Symptoms: Nausea, Vomiting, Abdominal pain, confusion |

## 12. ECOLOGICAL INFORMATION

## Ecotoxicity

## Components:

## Emamectin:

|                                                     |                                                                                            |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | : LC50 ( <i>Oncorhynchus mykiss</i> (rainbow trout)): 0.174 mg/l<br>Exposure time: 96 h    |
|                                                     | LC50 ( <i>Cyprinodon variegatus</i> (sheepshead minnow)): 1.34 mg/l<br>Exposure time: 96 h |
|                                                     | LC50 ( <i>Lepomis macrochirus</i> (Bluegill sunfish)): 0.18 mg/l<br>Exposure time: 96 h    |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 ( <i>Daphnia magna</i> (Water flea)): 0.00099 mg/l<br>Exposure time: 48 h           |
|                                                     | EC50 ( <i>Americanasys</i> ): 0.000043 mg/l<br>Exposure time: 48 h                         |

M-Factor (Acute aquatic toxicity) : 10,000

M-Factor (Chronic aquatic toxicity) : 10,000

## Persistence and degradability

No data available

### Bioaccumulative potential

## Components:

## **Emamectin·**

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)  
Bioconcentration factor (BCF): 80

Partition coefficient: n- : log Pow: 5

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version 4.0 Revision Date: 05.10.2023 SDS Number: 24923-00026 Date of last issue: 21.09.2023 Date of first issue: 23.10.2014

---

octanol/water

### **Mobility in soil**

No data available

### **Other adverse effects**

No data available

---

## 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.

---

## 14. TRANSPORT INFORMATION

### **International Regulations**

#### **UNRTDG**

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Emamectin)  
Class : 9  
Packing group : III  
Labels : 9  
Environmentally hazardous : yes

#### **IATA-DGR**

UN/ID No. : UN 3077  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.  
(Emamectin)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 956  
Packing instruction (passenger aircraft) : 956  
Environmentally hazardous : yes

#### **IMDG-Code**

UN number : UN 3077  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Emamectin)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version  
4.0

Revision Date:  
05.10.2023

SDS Number:  
24923-00026

Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

---

### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## 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

Revision Date : 05.10.2023

#### 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/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : dd.mm.yyyy

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - 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

# SAFETY DATA SHEET

according to the Globally Harmonized System



## Emamectin Formulation

Version  
4.0

Revision Date:  
05.10.2023

SDS Number:  
24923-00026

Date of last issue: 21.09.2023  
Date of first issue: 23.10.2014

---

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 Substances 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.

IN / EN