

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

**1. PRODUCT AND COMPANY IDENTIFICATION**

Chemical product name : Albendazole Sulfoxide (10%) Formulation

**Supplier's company name, address and phone number**

Company name of supplier : MSD

Address : 1-13-12, Kudan-kita, Chiyoda-ku, Tokyo, Japan

Telephone : 03-6272-1099

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

**2. HAZARDS IDENTIFICATION****GHS classification of chemical product**

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

Specific target organ toxicity - single exposure (Oral) : Category 2 (Gastrointestinal tract, Central nervous system)

Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Gastrointestinal tract, Central nervous system, Immune system, Liver)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

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|         |                |               |                                 |
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H361d Suspected of damaging the unborn child.  
H371 May cause damage to organs (Gastrointestinal tract, Central nervous system) if swallowed.  
H373 May cause damage to organs (Gastrointestinal tract, Central nervous system, Immune system, Liver) through prolonged or repeated exposure if swallowed.  
H410 Very toxic to aquatic life with long lasting effects.

## 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.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.

**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) | ENCS No.    |
|--|------------|-----------------------|-------------|
| Albendazole Sulfoxide                    | 54029-12-8 | >= 10 - < 20          | -           |
| Polyethylene glycol sorbitan monolaurate | 9005-64-5  | >= 0.1 - < 1          | 8-55, 7-110 |
| Benzoic acid                             | 65-85-0    | >= 0.1 - < 1          | 3-1397      |

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|                 |                              |                              |   |
|-----------------|------------------------------|------------------------------|---|
| Version<br>11.0 | Revision Date:<br>2025/04/14 | SDS Number:<br>3884321-00023 | Date of last issue: 2024/09/28<br>Date of first issue: 2018/11/30 |
|-----------------|------------------------------|------------------------------|---|

**4. FIRST AID MEASURES**

- |   |   |
|---|---|
| General advice  | : In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.  |
| If inhaled  | : If inhaled, remove to fresh air.<br>Get medical attention.  |
| In case of skin contact                                     | : In case of contact, immediately flush skin with soap and plenty of water.<br>Remove contaminated clothing and shoes.<br>Get medical attention.<br>Wash clothing before reuse.<br>Thoroughly clean shoes before reuse. |
| In case of eye contact                                      | : Flush eyes with water as a precaution.<br>Get medical attention if irritation develops and persists.  |
| If swallowed  | : If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person.   |
| Most important symptoms and effects, both acute and delayed | : May cause an allergic skin reaction.<br>Suspected of damaging the unborn child.<br>May cause damage to organs if swallowed.<br>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<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical  |
| Unsuitable extinguishing media        | : None known.   |
| Specific hazards during fire-fighting | : Exposure to combustion products may be a hazard to health.  |
| Hazardous combustion products         | : Carbon oxides<br>Nitrogen oxides (NO <sub>x</sub> )<br>Sulphur 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. |

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue:             |
| 11.0    | 2025/04/14     | 3884321-00023 | 2024/09/28                      |
|         |                |               | Date of first issue: 2018/11/30 |

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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.

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**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective 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****Handling**

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing.  
Do not breathe mist or vapours.  
Do not swallow.  
Avoid contact with 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  
Do not eat, drink or smoke when using this product.

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue:             |
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|         |                |               | Date of first issue: 2018/11/30 |

Avoidance of contact : Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Oxidizing agents

: 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.

Contaminated work clothing should not be allowed out of the workplace.

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.

**Storage**

Conditions for safe storage : Keep in properly labelled containers.

Store locked up.

Store in accordance with the particular national regulations.

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

Strong oxidizing agents

Packaging material : Unsuitable material: None known.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Threshold limit value and permissible exposure limits for each component in the work environment**

| Components                | CAS-No.    | Value type<br>(Form of exposure)   | Control parameters / Concentration standard / Permissible concentration | Basis    |
|---------------------------|------------|------------------------------------|---|----------|
| Albendazole Sulfoxide     | 54029-12-8 | TWA                                | 45 µg/m <sup>3</sup> (OEB 3)  | Internal |
| Further information: DSEN |            |                                    |   |          |
|                           |            | Wipe limit                         | 100 µg/100 cm <sup>2</sup>  | Internal |
| Benzoic acid              | 65-85-0    | TWA (Inhalable fraction and vapor) | 0.5 mg/m <sup>3</sup>   | ACGIH    |

**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 con-

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|-----------------|------------------------------|------------------------------|---|
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|-----------------|------------------------------|------------------------------|---|

tainment 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 : Combined particulates and organic vapour type

Hand protection

**II** Material : Chemical-resistant gloves

**II** 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : suspension

Colour : white

Odour : No data available

Odour Threshold : No data available

Melting point/freezing point : No data available

Boiling point, initial boiling point and boiling range : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Lower explosion limit and upper explosion limit / flammability limit  
Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

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---

|  |   |  |
|--|---|--|
| Flash point                            | : | Not applicable   |
| Decomposition temperature              | : | No data available  |
| pH                                     | : | No data available  |
| Evaporation rate                       | : | No data available  |
| Auto-ignition temperature              | : | No data available  |
| Viscosity                              |   |  |
| Viscosity, kinematic                   | : | No data available  |
| Solubility(ies)                        |   |  |
| Water solubility                       | : | No data available  |
| Partition coefficient: n-octanol/water | : | Not applicable   |
| Vapour pressure                        | : | No data available  |
| Density and / or relative density      |   |  |
| Relative density                       | : | No data available  |
| Density                                | : | No data available  |
| Relative vapour density                | : | No data available  |
| Explosive properties                   | : | Not explosive  |
| Oxidizing properties                   | : | The substance or mixture is not classified as oxidizing. |
| Molecular weight                       | : | No data available  |
| Particle characteristics               |   |  |
| Particle size                          | : | No data available  |

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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**

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---

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: > 2,000 mg/kg  
Method: Calculation method

**Components:****Albendazole Sulfoxide:**

Acute oral toxicity : LD50 (Mouse): 1,500 mg/kg  
LD50 (Rat): 2,400 mg/kg  
Acute toxicity (other routes of administration) : LD50 (Rat): 265 mg/kg  
Application Route: Intravenous

**Polyethylene glycol sorbitan monolaurate:**

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

**Benzoic acid:**

Acute oral toxicity : LD50 (Rat): 2,250 mg/kg  
Method: OECD Test Guideline 401  
Acute inhalation toxicity : LC50 (Rat): > 12.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Albendazole Sulfoxide:**

Species : Rabbit  
Result : No skin irritation



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|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

---

**Polyethylene glycol sorbitan monolaurate:**

|         |                           |
|---------|---------------------------|
| Species | : Rabbit                  |
| Method  | : OECD Test Guideline 404 |
| Result  | : No skin irritation      |

**Benzoic acid:**

|         |                   |
|---------|-------------------|
| Species | : Guinea pig      |
| Result  | : Skin irritation |

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Albendazole Sulfoxide:**

|         |                     |
|---------|---------------------|
| Species | : Rabbit            |
| Result  | : No eye irritation |

**Polyethylene glycol sorbitan monolaurate:**

|         |                     |
|---------|---------------------|
| Species | : Rabbit            |
| Result  | : No eye irritation |

**Benzoic acid:**

|         |                                   |
|---------|-----------------------------------|
| Species | : Rabbit                          |
| Result  | : Irreversible effects on the eye |

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Components:****Albendazole Sulfoxide:**

|                 |  |
|-----------------|--|
| Test Type       | : Maximisation Test  |
| Exposure routes | : Dermal   |
| Assessment      | : Probability or evidence of low to moderate skin sensitisation rate in humans |
| Result          | : positive   |

|                 |                     |
|-----------------|---------------------|
| Test Type       | : Maximisation Test |
| Exposure routes | : Dermal            |
| Result          | : Sensitiser        |

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|         |                |               |                                 |
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| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

---

**Polyethylene glycol sorbitan monolaurate:**

|                 |                           |
|-----------------|---------------------------|
| Test Type       | : Maximisation Test       |
| Exposure routes | : Skin contact            |
| Species         | : Guinea pig              |
| Method          | : OECD Test Guideline 406 |
| Result          | : negative                |

**Benzoic acid:**

|                 |                                 |
|-----------------|---------------------------------|
| Test Type       | : Local lymph node assay (LLNA) |
| Exposure routes | : Skin contact                  |
| Species         | : Mouse                         |
| Result          | : negative                      |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****Albendazole Sulfoxide:**

|                       |   |
|-----------------------|---|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative<br><br>Test Type: Chromosomal aberration<br>Test system: Chinese hamster ovary cells<br>Result: negative |
| Genotoxicity in vivo  | : Test Type: Micronucleus test<br>Species: Mouse<br>Cell type: Bone marrow<br>Result: negative  |

**Polyethylene glycol sorbitan monolaurate:**

|                       |  |
|-----------------------|--|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative |
|-----------------------|--|

**Benzoic acid:**

|                       |  |
|-----------------------|--|
| Genotoxicity in vitro | : Test Type: Chromosome aberration test in vitro<br>Result: equivocal<br><br>Test Type: in vitro micronucleus test<br>Result: negative |
| Genotoxicity in vivo  | : Test Type: Rodent dominant lethal test (germ cell) (in vivo)<br>Species: Rat<br>Application Route: Ingestion<br>Result: negative     |

**Carcinogenicity**

Not classified based on available information.

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

**Components:****Albendazole Sulfoxide:**

|                   |                         |
|-------------------|-------------------------|
| Species           | : Mouse                 |
| Application Route | : Oral                  |
| Exposure time     | : 2 Years               |
| NOAEL             | : 400 mg/kg body weight |
| Result            | : negative              |

|                   |                        |
|-------------------|------------------------|
| Species           | : Rat                  |
| Application Route | : Oral                 |
| Exposure time     | : 2 Years              |
| NOAEL             | : 20 mg/kg body weight |
| Result            | : negative             |

|                              |   |
|------------------------------|---|
| Carcinogenicity - Assessment | : No evidence of carcinogenicity in animal studies. |
|------------------------------|---|

**Reproductive toxicity**

Suspected of damaging the unborn child.

**Components:****Albendazole Sulfoxide:**

|                      |  |
|----------------------|--|
| Effects on fertility | : Test Type: Fertility<br>Species: Rat<br>Application Route: Oral<br>Fertility: NOAEL: 30 mg/kg body weight<br>Result: No effects on fertility |
|----------------------|--|

|                               |  |
|-------------------------------|--|
| Effects on foetal development | : Test Type: Development<br>Species: Rat<br>Application Route: Oral<br>Developmental Toxicity: LOAEL: 10 mg/kg body weight<br>Result: Embryotoxic effects., Skeletal malformations |
|-------------------------------|--|

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: LOAEL: 30 mg/kg body weight  
Result: Embryotoxic effects., Skeletal malformations, Maternal toxicity observed.

Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 5.8 mg/kg body weight  
Result: Effects on postnatal development

Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 7 mg/kg body weight

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

---

Result: Embryotoxic effects and adverse effects on the offspring were detected.

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

**Polyethylene glycol sorbitan monolaurate:**

Effects on foetal development : Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

**Benzoic acid:**

Effects on fertility : Test Type: Four-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

**STOT - single exposure**

May cause damage to organs (Gastrointestinal tract, Central nervous system) if swallowed.

**Components:****Albendazole Sulfoxide:**

Exposure routes : Oral  
Target Organs : Gastrointestinal tract, Central nervous system  
Assessment : May cause damage to organs.

**STOT - repeated exposure**

May cause damage to organs (Gastrointestinal tract, Central nervous system, Immune system, Liver) through prolonged or repeated exposure if swallowed.

**Components:****Albendazole Sulfoxide:**

Exposure routes : Oral  
Target Organs : Gastrointestinal tract, Central nervous system, Immune system, Liver  
Assessment : May cause damage to organs through prolonged or repeated exposure.

**Benzoic acid:**

Exposure routes : inhalation (dust/mist/fume)  
Target Organs : Lungs  
Assessment : Shown to produce significant health effects in animals at concentrations of 0.02 mg/l/6h/d or less.

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
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| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

---

**Repeated dose toxicity****Components:****Albendazole Sulfoxide:**

|                   |                                  |
|-------------------|----------------------------------|
| Species           | : Rat                            |
| LOAEL             | : 168 mg/kg                      |
| Application Route | : Oral                           |
| Exposure time     | : 4 Weeks                        |
| Target Organs     | : Gastrointestinal tract, Testis |
| Symptoms          | : Diarrhoea, Vomiting            |

|                   |                          |
|-------------------|--------------------------|
| Species           | : Dog                    |
| LOAEL             | : 48 mg/kg               |
| Application Route | : Oral                   |
| Exposure time     | : 4 Weeks                |
| Target Organs     | : Gastrointestinal tract |
| Symptoms          | : Diarrhoea, Vomiting    |

|                   |                                      |
|-------------------|--------------------------------------|
| Species           | : Mouse                              |
| LOAEL             | : 40 mg/kg                           |
| Application Route | : Oral                               |
| Exposure time     | : 3 Months                           |
| Target Organs     | : Blood, Liver, Nose                 |
| Symptoms          | : Hematologic effects, Liver effects |

|                   |                       |
|-------------------|-----------------------|
| Species           | : Rat                 |
| LOAEL             | : $\geq 30$ mg/kg     |
| Application Route | : Oral                |
| Exposure time     | : 6 Months            |
| Target Organs     | : Blood               |
| Symptoms          | : Hematologic effects |

|                   |                                      |
|-------------------|--------------------------------------|
| Species           | : Dog                                |
| LOAEL             | : 40 mg/kg                           |
| Application Route | : Oral                               |
| Exposure time     | : 6 Months                           |
| Target Organs     | : Blood, Liver                       |
| Symptoms          | : Hematologic effects, Liver effects |

|                   |  |
|-------------------|--|
| Species           | : Rat                                      |
| NOAEL             | : 7 mg/kg                                  |
| Application Route | : Oral                                     |
| Exposure time     | : 60 d                                     |
| Target Organs     | : Liver, Testis                            |
| Symptoms          | : Liver effects, male reproductive effects |

**Benzoic acid:**

|                   |                               |
|-------------------|-------------------------------|
| Species           | : Rat                         |
| LOAEL             | : $< 0.025$ mg/l              |
| Application Route | : inhalation (dust/mist/fume) |
| Exposure time     | : 28 Days                     |

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure****Components:****Albendazole Sulfoxide:**

|                     |  |
|---------------------|--|
| General Information | : Symptoms: Allergic reactions, hair loss, Gastrointestinal disturbance, Headache, Dizziness   |
| Skin contact        | : Target Organs: Skin<br>Symptoms: Allergic reactions<br>Remarks: May cause sensitisation by skin contact.   |
| Ingestion           | : Target Organs: Gastrointestinal tract<br>Symptoms: Gastrointestinal disturbance, Diarrhoea, Abdominal pain<br><br>Target Organs: Central nervous system<br>Symptoms: Headache, Dizziness<br><br>Target Organs: Liver<br>Symptoms: liver function change<br><br>Target Organs: Immune system<br>Symptoms: immune system effects |

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****Albendazole Sulfoxide:**

|   |   |
|---|---|
| Toxicity to fish                                    | : EC50 (Brachydanio rerio (zebrafish)): 0.042 mg/l<br>Exposure time: 144 hrs  |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 0.068 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202                       |
| Toxicity to algae/aquatic plants                    | : EC50 (Raphidocelis subcapitata (freshwater green alga)): 0.024 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| M-Factor (Acute aquatic toxicity)                   | : 10  |
| M-Factor (Chronic aquatic toxicity)                 | : 10  |

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|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue:             |
| 11.0    | 2025/04/14     | 3884321-00023 | 2024/09/28                      |
|         |                |               | Date of first issue: 2018/11/30 |

**||toxicity)****Polyethylene glycol sorbitan monolaurate:**

|  |   |   |
|--|---|---|
| Toxicity to fish   | : | LL50 (Danio rerio (zebra fish)): > 100 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 10 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211  |

**Benzoic acid:**

|  |   |  |
|--|---|--|
| Toxicity to fish   | : | LC50 (Lepomis macrochirus (Bluegill sunfish)): 44.6 mg/l<br>Exposure time: 96 h  |
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: EPA-660/3-75-009   |
| Toxicity to algae/aquatic plants                                       | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 33.1 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br><br>EC10 (Pseudokirchneriella subcapitata (green algae)): 3.4 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 25 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211   |
| Toxicity to microorganisms   | : | IC50: > 1,000 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209  |

**Persistence and degradability****Components:****Polyethylene glycol sorbitan monolaurate:**

|                  |   |   |
|------------------|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Biodegradation: > 60 %<br>Exposure time: 28 d |
|------------------|---|---|

**Benzoic acid:**

|                  |   |   |
|------------------|---|---|
| Biodegradability | : | Result: rapidly degradable<br>Biodegradation: 89.5 %<br>Exposure time: 35 d |
|------------------|---|---|

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

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**Bioaccumulative potential****Components:****Albendazole Sulfoxide:**

|  |                          |
|--|--------------------------|
| Partition coefficient: n-octanol/water | : log Pow: 1.27<br>pH: 7 |
|--|--------------------------|

**Benzoic acid:**

|  |                 |
|--|-----------------|
| Partition coefficient: n-octanol/water | : log Pow: 1.88 |
|--|-----------------|

**Mobility in soil**

No data available

**Hazardous to the ozone layer**

Not applicable

**Other adverse effects**

No data available

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

|                        |   |
|------------------------|---|
| Waste from residues    | : Dispose of in accordance with local regulations.<br>Do not dispose of waste into sewer.   |
| Contaminated packaging | : Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>If not otherwise specified: Dispose of as unused product. |

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**14. TRANSPORT INFORMATION****International Regulations****UNRTDG**

|                           |  |
|---------------------------|--|
| UN number                 | : UN 3082  |
| Proper shipping name      | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(Albendazole Sulfoxide) |
| Class                     | : 9  |
| Packing group             | : III  |
| Labels                    | : 9  |
| Environmentally hazardous | : yes  |

**IATA-DGR**

|                             |  |
|-----------------------------|--|
| UN/ID No.                   | : UN 3082  |
| Proper shipping name        | : Environmentally hazardous substance, liquid, n.o.s.<br>(Albendazole Sulfoxide) |
| Class                       | : 9  |
| Packing group               | : III  |
| Labels                      | : Miscellaneous  |
| Packing instruction (cargo) | : 964  |



**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

aircraft)  
Packing instruction (passenger aircraft) : 964  
Environmentally hazardous : yes

**IMDG-Code**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Albendazole Sulfoxide)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

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

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.

**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.

**ERG Code** : 171

**15. REGULATORY INFORMATION****Related Regulations****Fire Service Law**

Not applicable to dangerous materials / designated flammables.

**Chemical Substance Control Law**

Priority Assessment Chemical Substance

| Chemical name  | Number |
|--|--------|
| Mono(or poly)ether of (mono ester of anhydro(or dianhydro)glucitol and dodecanoic acid) and alpha-hydro-omega-hydroxypoly(oxyethylene) | 222    |

**Industrial Safety and Health Law****Harmful Substances Prohibited from Manufacture**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Substances Prevented From Impairment of Health**

Not applicable

## Albendazole Sulfoxide (10%) Formulation

Version 11.0      Revision Date: 2025/04/14      SDS Number: 3884321-00023      Date of last issue: 2024/09/28  
Date of first issue: 2018/11/30

### Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

### Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

### Substances Subject to be Notified Names

Law Article 57-2 (Ministerial Order Article 34-2 Appended Table 2)

| Chemical name | Concentration (%)  | Remarks              |
|---------------|--------------------|----------------------|
| benzoic acid  | $\geq 0.1$ - $< 1$ | From April 1st, 2025 |

### Substances Subject to be Indicated Names

Not applicable

### Skin and Eye Damage Substances (ISHL MO Art. 594-2)

Not applicable

### Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

### Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

### Ordinance on Prevention of Lead Poisoning

Not applicable

### Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

### Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

### Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

### Poisonous and Deleterious Substances Control Law

Not applicable

### Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Not applicable

### High Pressure Gas Safety Act

Not applicable

### Explosive Control Law

Not applicable

### Vessel Safety Law

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

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**Aviation Law**

Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

**Marine Pollution and Sea Disaster Prevention etc Law**

Bulk transportation : Noxious liquid substance(Category Z)

Pack transportation : Classified as marine pollutant

**Narcotics and Psychotropics Control Act**

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

**Waste Disposal and Public Cleansing Law**

Industrial waste

**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**

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

**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 : yyyy/mm/dd

**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 Sys-

**Albendazole Sulfoxide (10%) Formulation**

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 11.0    | 2025/04/14     | 3884321-00023 | Date of first issue: 2018/11/30 |

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tem; 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 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.

JP / EN