SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Halofuginone Formulation

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

1.1 Product identifier
   Trade name: Halofuginone Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Use of the Substance/Mixture: Veterinary product

1.3 Details of the supplier of the safety data sheet
   Company: MSD
   Kilsheelan
   Clonmel Tipperary, IE
   Telephone: 353-51-601000
   E-mail address of person responsible for the SDS: EHSDATASTEWARD@msd.com

1.4 Emergency telephone number
   1-908-423-6000

Section 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   - Eye irritation, Category 2
   - Long-term (chronic) aquatic hazard, Category 3
   - H319: Causes serious eye irritation.
   - H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
   - Hazard pictograms
   - Signal word: Warning
   - Hazard statements: H319 Causes serious eye irritation.
   - H412 Harmful to aquatic life with long lasting effects.
   - Precautionary statements: Prevention:
     - P264 Wash skin thoroughly after handling.
     - P273 Avoid release to the environment.
     - P280 Wear eye protection/ face protection.
Response:
P337 + P313  If eye irritation persists: Get medical advice/attention.

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Components</th>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactic acid</td>
<td></td>
<td>50-21-5</td>
<td>200-018-0</td>
<td></td>
<td>Skin Irrit. 2; H315</td>
<td>&gt;= 1 - &lt; 3</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1; H318</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>specific concentration limit</td>
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<td></td>
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<td></td>
<td>Eye Irr. 2; H319</td>
<td>1 - &lt; 3 %</td>
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<td>Halofuginone</td>
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<td>82186-71-8</td>
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<td>Acute Tox. 2; H300</td>
<td>&gt;= 0.025 - &lt; 0.1</td>
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<td>Acute Tox. 2; H330</td>
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<td>Acute Tox. 1; H310</td>
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<td>Skin Irr. 2; H315</td>
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<td>Eye Dam. 1; H318</td>
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<td>Skin Sens. 1B; H317</td>
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<td>Repr. 2; H361f</td>
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<td>STOT RE 1; H372</td>
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<td>(Blood) Aquatic Acute 1; H400</td>
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<td></td>
<td>Aquatic Chronic 1; H410</td>
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<tr>
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<td></td>
<td>M-Factor (Acute aquatic toxicity): 10</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>M-Factor (Chronic aquatic toxicity): 10</td>
<td></td>
</tr>
</tbody>
</table>
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Version 3.13
Revision Date: 27.08.2021
SDS Number: 862938-00016
Date of last issue: 09.04.2021
Date of first issue: 26.08.2016

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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.

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).

If inhaled: If inhaled, remove to fresh air. Get medical attention if symptoms occur.

In case of skin contact: 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.

In case of eye contact: 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.

If swallowed: If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks: Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment: Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray
## 5.2 Special hazards arising from the substance or mixture

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

### Unsuitable extinguishing media
- None known.

### 5.3 Advice for firefighters

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

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

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### Personal precautions
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

### 6.2 Environmental precautions

#### 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 spills cannot be contained.

### 6.3 Methods and material for containment and cleaning up

#### Methods for 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...
used 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.

6.4 Reference to other sections
See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe 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.
Avoid inhalation of vapour or mist.
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.
Take care to prevent spills, waste and minimize release to the environment.
Hygiene measures
If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Keep in properly labelled containers. Store in accordance with the particular national regulations.
Advice on common storage
Do not store with the following product types:
Strong oxidizing agents

7.3 Specific end use(s)
Specific use(s)
No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Substance</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
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<tbody>
<tr>
<td>Lactic acid</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>592 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>296 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>296 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

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. Essentially no open handling permitted.

Use closed processing systems or containment technologies.

If handled in a laboratory, use a properly designed biosafety cabinet, fume hood, or other containment device if the potential exists for aerosolization. If this potential does not exist, handle over lined trays or benchtops.

Personal protective equipment

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.

Hand protection

Material: Chemical-resistant gloves

Remarks: Consider double gloving.

Skin and body protection

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.

Respiratory protection:

- If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Equipment should conform to I.S. EN 14387

Filter type: Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: liquid
Colour: yellow
### Odour
- **Odour**: odourless
- **Odour Threshold**: No data available

### Melting point/freezing point
- **Melting point/freezing point**: No data available

### Initial boiling point and boiling range
- **Initial boiling point and boiling range**: No data available

### Flammability (solid, gas)
- **Flammability (solid, gas)**: Not applicable

### Flammability (liquids)
- **Flammability (liquids)**: No data available

### Upper explosion limit / Upper flammability limit
- **Upper explosion limit / Upper flammability limit**: No data available

### Lower explosion limit / Lower flammability limit
- **Lower explosion limit / Lower flammability limit**: No data available

### Flash point
- **Flash point**: No data available

### Auto-ignition temperature
- **Auto-ignition temperature**: No data available

### Decomposition temperature
- **Decomposition temperature**: No data available

### pH
- **pH**: 2.1 - 3

### Viscosity
- **Viscosity, kinematic**: No data available

### Solubility(ies)
- **Water solubility**: No data available

### Partition coefficient: n-octanol/water
- **Vapour pressure**: No data available

### Density
- **Density**: No data available

### Relative vapour density
- **Relative vapour density**: No data available

### Particle characteristics
- **Particle size**: No data available

#### 9.2 Other information
- **Explosives**: Not explosive
- **Oxidizing properties**: The substance or mixture is not classified as oxidizing.
- **Evaporation rate**: No data available
- **Molecular weight**: No data available
SECTION 10: Stability and reactivity

10.1 Reactivity
   Not classified as a reactivity hazard.

10.2 Chemical stability
   Stable under normal conditions.

10.3 Possibility of hazardous reactions
   Hazardous reactions: Can react with strong oxidizing agents.

10.4 Conditions to avoid
   Conditions to avoid: None known.

10.5 Incompatible materials
   Materials to avoid: Oxidizing agents

10.6 Hazardous decomposition products
   No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
   Information on likely routes of exposure:
      Inhalation
      Skin contact
      Ingestion
      Eye contact

   Acute toxicity
   Not classified based on available information.

   Components:

   Lactic acid:
   Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
      Remarks: Based on data from similar materials

   Acute inhalation toxicity: LC50 (Rat): > 5 mg/l
      Exposure time: 4 h
      Test atmosphere: dust/mist
      Method: OECD Test Guideline 403
      Remarks: Based on data from similar materials

   Acute dermal toxicity: LD50 (Rabbit): > 2,000 mg/kg
      Assessment: The substance or mixture has no acute dermal toxicity
      Remarks: Based on data from similar materials

   Halofuginone:
   Acute oral toxicity: LD50 (Rat): 30 mg/kg
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LD50 (Mouse): 5 mg/kg

Acute inhalation toxicity: LC50 (Rat): 0.053 mg/l
Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): 16 mg/kg
Acute toxicity estimate: 16 mg/kg
Method: Calculation method

Skin corrosion/irritation
Not classified based on available information.

Components:

Lactic acid:
Species: Rabbit
Result: Skin irritation
Remarks: Based on data from similar materials

Halofuginone:
Species: Rabbit
Result: Skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

Lactic acid:
Species: Chicken eye
Remarks: Based on data from similar materials
Result: Irreversible effects on the eye

Halofuginone:
Result: Severe irritation

Respiratory or skin sensitisation

Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Components:

Lactic acid:
Test Type: Buehler Test
Exposure routes: Skin contact
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Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Halofuginone:

Exposure routes: Dermal
Species: Guinea pig
Result: Sensitiser

Germ cell mutagenicity
Not classified based on available information.

Components:

Lactic acid:

Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vitro: Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vitro: Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Halofuginone:

Genotoxicity in vitro: Test Type: Ames test
Result: positive

Test Type: Mouse Lymphoma
Result: negative

Test Type: Chromosomal aberration
Test system: human lymphoblastoid cells
Result: negative

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

Genotoxicity in vivo: Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Result: negative

Test Type: Cytogenetic assay
Carcinogenicity
Not classified based on available information.

Components:

Lactic acid:
Species: Rat
Application Route: Oral
Result: negative

Test Type: DNA Repair
Species: Mouse
Application Route: Oral
Result: negative

Halofuginone:
Species:
Application Route: Oral
NOAEL: 0.24 mg/kg body weight
Result: negative

Species:
Application Route: Oral
NOAEL: 0.36 mg/kg body weight
Result: negative

Species:
Application Route: Oral
NOAEL: 0.09 - 0.18 mg/kg body weight
Result: negative

Reproductive toxicity
Not classified based on available information.

Components:

Lactic acid:
Effects on foetal development:
Test Type: Embryo-foetal development
Species: Mouse
Application Route: Ingestion
Result: negative

Halofuginone:
Effects on fertility: Test Type: Fertility
Species: Mouse  
Application Route: Oral  
Fertility: NOAEL: 0.126 mg/kg body weight  
Result: No effects on fertility  

Test Type: Fertility  
Species: Dog  
Application Route: Oral  
Fertility: LOAEL: 0.067 mg/kg body weight  
Result: Effects on fertility  

Test Type: Three-generation reproduction toxicity study  
Species: Mouse  
Application Route: Oral  
General Toxicity F1: LOAEL: 0.063 mg/kg body weight  
Symptoms: Reduced body weight  
Result: No effects on fertility and early embryonic development were detected.  

**Effects on foetal development**  
Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: LOAEL: 0.34 mg/kg body weight  
Embryo-foetal toxicity: NOAEL: 0.67 mg/kg body weight  
Result: No embryo-foetal toxicity, No teratogenic effects  

Test Type: Embryo-foetal development  
Species: Rabbit  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 0.025 mg/kg body weight  
Embryo-foetal toxicity: NOAEL: 0.076 mg/kg body weight  
Result: No embryo-foetal toxicity, No teratogenic effects  

**Reproductive toxicity - Assessment**  
Some evidence of adverse effects on sexual function and fertility, based on animal experiments.  

**STOT - single exposure**  
Not classified based on available information.  

**STOT - repeated exposure**  
Not classified based on available information.  

**Components:**  

**Halofuginone:**  
Target Organs  
Assessment : Blood  
Causes damage to organs through prolonged or repeated exposure.  

**Repeated dose toxicity**  

**Components:**  

**Lactic acid:**
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Species: Rat
NOAEL: > 100 mg/kg
Application Route: Ingestion
Exposure time: 13 Weeks
Remarks: Based on data from similar materials

Species: Rat
LOAEL: 886 mg/kg
Application Route: Skin contact
Exposure time: 13 Weeks

Halofuginone:
Species: Mouse
NOAEL: 0.07 mg/kg
LOAEL: 0.16 mg/kg
Application Route: Oral
Exposure time: 4 Weeks
Target Organs: Blood

Species: Rat
NOAEL: 0.13 mg/kg
LOAEL: 0.88 mg/kg
Application Route: Oral
Exposure time: 13 Weeks
Target Organs: Liver

Species: Dog
NOAEL: 0.067 mg/kg
LOAEL: 0.134 mg/kg
Application Route: Oral
Exposure time: 13 Weeks
Target Organs: Blood

Species: Dog
NOAEL: 0.075 mg/kg
LOAEL: 0.16 mg/kg
Application Route: Oral
Exposure time: 26 Weeks
Target Organs: Blood

Aspiration toxicity
Not classified based on available information.

11.2 Information on other hazards

Endocrine disrupting properties

Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Experience with human exposure

**Components:**

**Halofuginone:**

- **General Information:** No human information is available.
- **Inhalation:** Remarks: May cause irritation of respiratory tract.
- **Skin contact:** Remarks: May cause skin irritation and/or dermatitis. May cause sensitisation by skin contact. Can be absorbed through skin.
- **Eye contact:** Remarks: May irritate eyes.

**SECTION 12: Ecological information**

**12.1 Toxicity**

**Components:**

**Lactic acid:**

- **Toxicity to fish:** LC50 (Danio rerio (zebra fish)): > 100 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203
  - Remarks: Based on data from similar materials

- **Toxicity to daphnia and other aquatic invertebrates:** EC50 (Daphnia magna (Water flea)): > 100 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202
  - Remarks: Based on data from similar materials

- **Toxicity to algae/aquatic plants:** ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

- **NOEC (Pseudokirchneriella subcapitata (green algae)):** > 100 mg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201
  - Remarks: Based on data from similar materials

- **Toxicity to microorganisms:** EC50: > 10 - 100 mg/l
  - Exposure time: 3 h
  - Method: OECD Test Guideline 209
  - Remarks: Based on data from similar materials

**Halofuginone:**

- **Toxicity to fish:** LC50 (Oncorhynchus mykiss (rainbow trout)): 1.8 mg/l
  - Exposure time: 96 h
  - Remarks: Based on data from similar materials

  LC50 (Cyprinus carpio (Carp)): 0.3 mg/l
Exposure time: 72 h  
Remarks: Based on data from similar materials

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.12 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 0.02 mg/l  
Exposure time: 48 h  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants: EC50 (Chlorella pyrenoidosa (algae)): 46 mg/l  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity): 10

M-Factor (Chronic aquatic toxicity): 10

### 12.2 Persistence and degradability

**Components:**

**Lactic acid:**
Biodegradability: Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

**Halofuginone:**
Biodegradability: Result: Not readily biodegradable.

### 12.3 Bioaccumulative potential

**Components:**

**Lactic acid:**
Partition coefficient: n-octanol/water: log Pow: -0.62

**Halofuginone:**
Partition coefficient: n-octanol/water: log Pow: 1.18

### 12.4 Mobility in soil

**Components:**

**Halofuginone:**
Distribution among environmental compartments: log Koc: 3.87  
Method: FDA 3.08
12.5 Results of PBT and vPvB assessment

**Product:**
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

**Product:**
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Product** : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**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.

SECTION 14: Transport information

14.1 UN number or ID number
Not regulated as a dangerous good

14.2 UN proper shipping name
Not regulated as a dangerous good

14.3 Transport hazard class(es)
Not regulated as a dangerous good

14.4 Packing group
Not regulated as a dangerous good

14.5 Environmental hazards
Not regulated as a dangerous good

14.6 Special precautions for user
Not applicable

14.7 Maritime transport in bulk according to IMO instruments
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according to Regulation (EC) No. 1907/2006

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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
</tr>
</thead>
</table>

Remarks: Not applicable for product as supplied.

### SECTION 15: Regulatory information

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

- **REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII):** Conditions of restriction for the following entries should be considered:
  - Number on list 3
- **REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):** Not applicable
- **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:** Not applicable
- **Regulation (EU) 2019/1021 on persistent organic pollutants (recast):** Not applicable
- **Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:** Not applicable
- **REACH - List of substances subject to authorisation (Annex XIV):** Not applicable

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

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AICS</td>
<td>not determined</td>
</tr>
<tr>
<td>DSL</td>
<td>not determined</td>
</tr>
<tr>
<td>IECSC</td>
<td>not determined</td>
</tr>
</tbody>
</table>

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

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

**Full text of H-Statements**

- **H300:** Fatal if swallowed.
- **H310:** Fatal in contact with skin.
- **H315:** Causes skin irritation.
- **H317:** May cause an allergic skin reaction.
- **H318:** Causes serious eye damage.
- **H330:** Fatal if inhaled.
- **H361f:** Suspected of damaging fertility.
- **H372:** Causes damage to organs through prolonged or repeated exposure.
- **H400:** Very toxic to aquatic life.
- **H410:** Very toxic to aquatic life with long lasting effects.
SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Halofuginone Formulation

Version 3.13 Revision Date: 27.08.2021 SDS Number: 862938-00016 Date of last issue: 09.04.2021 Date of first issue: 26.08.2016

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Eye Dam. : Serious eye damage
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information


Classification of the mixture:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 3</td>
<td>H412</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>
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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