SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	**Halagon**
Item Code:	Halofuginone 0.50 mg as lactate salt, oral solution for calves
Product Use:	Veterinary Medicine. For Animal Treatment Only.
Restriction of Use:	For use as a veterinary medicine only
Manufacturer:	Emdoka bvba J.Lijsenstraat 16 B-2321 Hoogstraten Belgium
New Zealand Supplier: Address:	KAHUVET 7b, 23 Ash Road Wiri, Manukau Auckland
Telephone:	0800 524 883
Emergency Telephone:	**0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	16 October 2017

Section 2. Hazards Identification

This substance is hazardous according to the *Hazardous Substances (Minimum Degrees of Hazard) Notice 2017*

EPA Approval No: HSR100758

Pictograms:

Irritant

Signal Word: **Warning**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.3A	H315	Causes skin irritation.	Category 2
6.4A	H319	Causes serious eye irritation.	Category 2A
9.1C	H412	Harmful to aquatic life with long lasting effects.	Category 3
9.3C	H433	Harmful to terrestrial vertebrates.	NA

Prevention Code	Prevention Statement
P103	Read label before use.

P264	Wash contacted hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing and eye protection.

Response Code	**Response Statement**
P321	Specific treatment (see SDS section 4, first aid instructions).
P362	Take off contaminated clothing and wash before re-use.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	**Storage Statement**
None allocated	Store below 25°C in the closed, outer carton in a dry well ventilated area. Protect from light. Once opened use within 6 months. Keep away from food, drink, and animal food stuffs.

Disposal Code	**Disposal Statement**
P501	Dispose of according to Local Regulations or Authorities. Must be sent for special treatment in accordance with local authority regulations. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	**Wt%**	**CAS NUMBER.**
Halofuginone lactate	<0.1	82186-71-8
Lactic Acid	1-5%	50-21-5

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice.

If on Skin — Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation occurs or persists: get medical advice/attention.

If Swallowed — Rinse mouth. DO NOT induce vomiting. Never give anything to the mouth of an unconscious person. Ingest activated charcoal. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.

If Inhaled — Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms: After eye contact: Severe eye irritation, lachrymation, pain.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable, non-combustible liquid.
Hazardous Decomposition	If involved in a fire, on thermal decomposition, may emit fumes containing toxic compounds.
Suitable Extinguishing media	Extinguish fire using fine water spray, carbon dioxide, foam or dry agent as extinguishing media.
Precautions for firefighters and special protective clothing	Use breathing apparatus and gloves.
HAZCHEM CODE	**Not Assigned**

Section 6. Accidental Release Measures

Small Spills
Clear the area of all unprotected personnel. Wear appropriate protective clothing whilst cleaning up small spills (see Section 8, Personal Protection). Apply inert absorbent material such as earth, sand, universal binder or kitty litter granules to the spill. Sweep up material for disposal when absorption is complete. Clean up minor spills immediately.

Large Spills
Clear the area of all unprotected personnel. Wear protective clothing. Place leaking containers into salvage drums. Apply inert absorbent material such as earth, sand, universal binder or kitty litter granules to spill area. Form a barricade/bund around the spill and in front of drains or waterways in spill vicinity, using earth or other available material. Prevent entry of material into drains or water ways.

Dispose of spill residues and used spill media according to Local Regulations.

Section 7. Handling and Storage

Precautions for Handling:
- Keep out of reach of children.
- Read label before use.
- Avoid breathing fumes, vapours or mists.
- Do not contaminate water, feed, or food by storage, handling, or disposal.
- Wash hands thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Wear protective clothing.

Precautions for Storage:
- Store away from any incompatible materials listed in Section 10.
- Store containers upright and closed.
- Store below 25^{o}C in the closed, outer carton in a dry well ventilated area.
- Protect from light.
- Once opened use within 6 months.
- Keep away from food, drink, and animal food stuffs.
- Keep tightly closed.
- Emptied containers may retain product residues and therefore require rinsing before disposal.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m^3	STEL ppm	STEL mg/m^3

No ingredients have WES exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA*).The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure.* Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). *The 15-minute average exposure standard.* Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply.

Engineering Controls
No special engineering controls are required for normal use. Keep containers closed when not in use.

General safety and Hygiene Measures
Keep the work place clean. Use only clean equipment. When using do not eat, drink or smoke.

Personal Protective Equipment

Eyes	Wear approved safety glasses with side shields.
Hand Protection	Wear suitable gloves. Protective gloves made out of: natural rubber (Latex), Nitrile rubber, PVC, Butyl rubber The selected protective gloves have to satisfy the specifications of AS/NZS 2161:2016
Body	Wear suitable protective clothing Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Respiratory	Generally not required.
General	Facilities for storing or utilising this material should be equipped with an eyewash facility, safety shower and facility for washing hands and face after work.

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Yelowish
Odour	Not available
Odour Threshold	Not available
pH	Not available
Boiling Point	100^0C
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	Not available
Solubility	Not available

Rainfastness	Not available
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available
Other information	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions of use and storage.
Conditions to Avoid	Not available
Incompatible Materials	Not available
Hazardous Decomposition Products	Not available

Section 11 Toxicological Information

Acute Effects: Irritation and Corrosively

Swallowed	Not Acutely toxic.
Dermal	Causes skin irritation.
Inhalation	Not a foreseeable route of exposure when used as directed however may cause irritation to the respiratory tract if inhaled.
Eye	Causes serious eye irritation.
Skin	Causes skin irritation.

Chronic Effects:

Carcinogenicity	Not applicable
Reproductive Toxicity	Not applicable
Germ Cell Mutagenicity	Not applicable
Aspiration	Not applicable
STOT/SE	Not applicable
STOT/RE	Not applicable
Other	Not applicable

Acute Effects

Low toxicity

Ingestion: Acute oral LD_{50} mouse >5000 mg/kg.
Dermal: Acute demal LD_{50} rabbit >5000 mg/kg
Inhalation: Acute inhalation LC_{50} rat >5mg/l

(Data based on calculations using HSNO mixture rules).

Section 12. Ecotoxicological Information

HSNO Classes: 9.1C = Harmful to aquatic life with long lasting effects.
9.3C = Harmful to terrestrial vertebrates.

Persistence and degradability	May cause long-term adverse effects in aquatic environments.
Bioaccumulation	No data available
Mobility in Soil	Not available

Other adverse effects	Not available

Ecotoxicity

Aquatic toxicity- Halofuginone

Cyprinus carpio LC_{50} : 0.3-0.7 mg/l (72h)
Salmo gairdneiri LC_{50} : 1.8 mg/l (96 h)
Lepomis macrochirus LC_{50} : 0.12 mg/l (96 h)
Daphnia magna EC_{50} : 0.02 mg/l (48 h)
Chlorella pyrenoidosa EC_{50} : 46 mg/l.

Section 13. Disposal Considerations

Disposal Methods:
Normal disposal of product is through use as directed on the product label.
Must be sent for special treatment in accordance with local authority regulations.
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Precautions:
Ensure waste containers containing unwanted or recovered product or contaminated spill media are labelled "Hazardous Waste – Ecotoxic". If triple rinsing container, add rinsate to waste container for disposal.

Methods to avoid: Do not allow to enter waterways.

Section 14 Transport Information

This product is not classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

Road and Rail Transport

UN No:	Not classified as a dangerous good for transport
Class-primary	Not classified as a dangerous good for transport
Packing Group	Not classified as a dangerous good for transport
Proper Shipping Name:	Not classified as a dangerous good for transport

Air Transport

UN No:	Not classified as a dangerous good for transport
Class-primary	Not classified as a dangerous good for transport
Packing Group	Not classified as a dangerous good for transport
Proper Shipping Name:	Not classified as a dangerous good for transport

Marine Transport

UN No:	Not classified as a dangerous good for transport
Class-primary	Not classified as a dangerous good for transport
Packing Group	Not classified as a dangerous good for transport
Proper Shipping Name:	Not classified as a dangerous good for transport

Marine Pollutant No

Section 15 Regulatory Information

EPA Approval Code: HSR100758

EPA Groups Standard: Veterinary Medicines (Non-dispersive Open System Application) Group Standard 2012

HSNO Classification: 6.3A, 6.4A, 9.1C, 9.3C

HSNO Controls:

Trigger quantities for this substance:	**Trigger Quantity**
Approved Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	1000L(9.1C)
Emergency Response Plan	1000L(9.1C)
Secondary Containment	1000L(9.1C)
Restriction of Use	Veterinary Medicine. For Animal Treatment Only.

Section 16 Other Information

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

1. HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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Please contact the New Zealand distributor, KAHUVET, 7b, 23 Ash Road, Wiri, Manukau, Auckland, if further information is required.

Issue Date: 16 October 2017 Review Date: 16 October 2022