SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

HALOCUR VETERINARY
Oral solution for calves

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active substance:

Halofuginone base (as lactate salt)	0.50 mg/ml

Excipients:

Benzoic acid	1.00 mg/ml
Tartrazine (E 102)	0.03 mg/ml

For a full list of excipients, see section 6.1

3. PHARMACEUTICAL FORM

Oral solution
Canary yellow homogenous clear solution.

4. CLINICAL PARTICULARS

4.1 Target species

New born calves.

4.2 Indications for use, specifying the target species

Prevention of diarrhoea due to diagnosed *Cryptosporidium parvum*, in farms with history of cryptosporidiosis.
Administration should start in the first 24 to 48 hours of age.

Reduction of diarrhoea due to diagnosed *Cryptosporidium parvum*.
Administration should start within 24 hours after the onset of diarrhoea.

In both cases, the reduction of oocysts excretion has been demonstrated.

4.3 Contraindications

Do not use on an empty stomach.
Do not use in case of diarrhoea established for more than 24 hours and in weak animals.
Not for use in cows producing milk for human consumption.

4.4 Special warnings

None.

4.5 Special precautions for use

Special precautions for use in animals

Administer after colostrum feeding, or after milk or milk replacer feeding only, using either a syringe or any appropriate device for oral administration. Do not use on an empty stomach. For treatment of anorexic calves, the product should be administered in half a litre of an electrolyte solution. The animals should receive enough colostrum according to good breeding practice.

Special precautions to be taken by the person administering the veterinary medicinal product to animals

Repetitive contact with the product may lead to skin allergies. Avoid skin, eye or mucosal contact with the product. Wear protective gloves while handling the product.
In case of skin and eye contact wash the exposed area thoroughly with clean water. If eye irritation persists, seek medical advice.
Wash hands after use.

4.6 Adverse reactions (frequency and seriousness)

An increase in the level of diarrhoea has been observed in treated animals in very rare cases.

The frequency of adverse reactions is defined using the following convention:
- very common (more than 1 in 10 animals treated displaying adverse reaction(s))
- common (more than 1 but less than 10 animals in 100 animals treated)
- uncommon (more than 1 but less than 10 animals in 1,000 animals treated)
- rare (more than 1 but less than 10 animals in 10,000 animals treated)
- very rare (less than 1 animal in 10,000 animals treated, including isolated reports).

Reporting suspected adverse reactions:
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form
https://sideeffects.health.gov.il

4.7 Use during pregnancy, lactation or lay

Not applicable.

4.8 Interaction with other medicinal products and other forms of interaction

None known.

4.9 Amounts to be administered and administration route

For oral use in calves after feeding.

The dosage is: 100 μg of halofuginone base / kg body weight (BW) / once a day for 7 consecutive days, i.e. 2 ml of HALOCUR VETERINARY / 10 kg BW / once a day for 7 consecutive days.

However, in order to make the HALOCUR VETERINARY treatment easier, a simplified dosage scheme is proposed:

- 35 kg < calves ≤ 45 kg: 8 ml of HALOCUR once a day during 7 consecutive days
- 45 kg < calves < 60 kg: 12 ml of HALOCUR once a day during 7 consecutive days

For smaller or higher weights, a precise calculation should be performed (2 ml/10 kg BW).
To ensure a correct dosage, the use of either a syringe or any appropriate device for oral administration is necessary.

The consecutive treatment should be done at the same time each day.

Once the first calf has been treated, all the forthcoming new-born calves must be systematically treated as long as the risk for diarrhoea due to *C. parvum* persists.

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

As symptoms of toxicity may occur at twice the therapeutic dose, it is necessary to apply the recommended dosage strictly. Symptoms of toxicity include diarrhoea, visible blood in faeces, decline in milk consumption, dehydration, apathy and prostration. Should clinical signs of overdosing occur the treatment must be stopped immediately and the animal fed unmedicated milk or milk replacer. Rehydration may be necessary.

4.11 Withdrawal period(s)

Meat: 13 days.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: Quinazolinone derivate
ATCvet code: QP51AX08

5.1 Pharmacodynamic properties

The active substance, halofuginone, is an antiprotozoal agent of the quinazolinone derivatives group (nitrogenous polyheterocycles). Halofuginone lactate (RU 38788) is a salt whose antiprotozoal properties and efficacy against *Cryptosporidium parvum* have been demonstrated both in *in vitro* conditions and in artificial and natural infections. The compound has a cryptosporidiostatic effect on *Cryptosporidium parvum*. It is mainly active on the free stages of the parasite (sporozoïte, merozoïte). The concentrations to inhibit 50 % and 90 % of the parasites, in an *in vitro* test system, are IC_{50} < 0.1 μg/ml and IC_{90} of 4.5 μg/ml respectively.

5.2 Pharmacokinetic particulars

The bioavailability of the drug in the calf, following single oral administration, is about 80 %. The time necessary to obtain the maximum concentration T_{max} is 11 hours. The maximum concentration in plasma C_{max} is 4 ng/ml. The apparent volume of distribution is 10 l/kg. The plasmatic concentrations of halofuginone after repeated oral administrations are comparable to the pharmacokinetic pattern after single oral treatment. Unchanged Halofuginone is the major component in the tissues. Highest values have been found in the liver and the kidney. The product is mainly excreted in the urine. The terminal elimination half-life is 11.7 hours after intravenous administration and 30.84 hours after single oral administration.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Lactic acid, Benzoic acid, Tartrazine (E 102), Water

6.2 Major incompatibilities

None known.

6.3 Shelf life

The expiry date of the product is indicated on the packaging materials.
Shelf-life after first opening the container: 6 months.

6.4 Special precautions for storage

Store below 25 °C.

6.5 Nature and composition of immediate packaging

High-density polyethylene portable bottle of 500 ml containing 490 ml of the oral solution.
High-density polyethylene portable bottle of 1000 ml containing 980 ml of the oral solution.
Not all pack sizes may be marketed.

6.6 Special precautions for the disposal of unused veterinary medicinal product or waste materials derived from the use of such products

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of as toxic waste, do not throw to sewer.

HALOCUR should not enter water courses, as this may be dangerous for fish and other aquatic organisms.

7. MANUFACTURER

Intervet Productions SA,
Rue de Lyons, 27460, Igoville,
France

8. REGISTRATION HOLDER

Intervet Israel Ltd.
Industrial Zone Neve Ne'eman,
Hod Hasharon 45240,
Israel

9. LICENSE NUMBER

155-24-34248-00

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