

Summary of Product Characteristics

1 NAME OF THE VETERINARY MEDICINAL PRODUCT

Kilo-mec 0.5 % Pour-On Solution for Cattle.

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml of solution contains:

Active substance

Ivermectin 5 mg

Excipients

Benzyl Alcohol (as preservative) 10 mg

For a full list of excipients, see Section 6.1

3 PHARMACEUTICAL FORM

Pour-on solution.

4 CLINICAL PARTICULARS

4.1 Target Species

Cattle.

4.2 Indications for use, specifying the target species

In cattle: For the treatment of infections with the following parasites

Gastro-intestinal worms -

Haemonchus placei (adult and fourth stage larvae)

Ostertagia ostertagi (adult and fourth stage larvae, including inhibited larvae)

Trichostrongylus axei (adult and fourth stage larvae)

Trichostrongylus colubriformis (adult and fourth stage larvae)

Cooperia punctata (adult only)

Cooperia oncophora (adult only)

Strongyloides papillosus (adult only)

Oesophagostomum radiatum, (adult and fourth stage larvae)

Lungworm (adult and fourth stage larvae) – *Dictyocaulus viviparus*.

Warbles (parasitic stages) – *Hypoderma bovis*, *Hypoderma lineatum*.

Mange mites – *Sarcoptes scabiei* var. *bovis*. The product may also be used to reduce infection of the mange mite *Chorioptes bovis*, but complete elimination may not occur.

Sucking and biting lice – *Linognathus vituli*, *Haematopinus eurysternus*, *Bovicola (Damalinia) bovis*.

Kilo-mec 0.5% Pour-On Solution for Cattle has persistent activity against infections acquired with *Trichostrongylus axei* and *Cooperia* spp. up to 14 days after treatment, but only in the case of group treatment; *Ostertagia ostertagi* and *Oesophagostomum radiatum* up to 21 days after treatment; *Dictyocaulus viviparus* up to 28 days after treatment. It also has persistent activity against horn flies (*Haematobia irritans*) for up to 28 days after treatment; partial efficacy against *Haematobia irritans* may last for up to 35 days post application.

4.3 Contraindications

Do not use in cases of known hypersensitivity to the active ingredient.

Do not use in lactating dairy cows producing milk for human consumption. Do not use in non-lactating dairy cows, including pregnant dairy heifers, within 60 days of calving.

The product has been formulated for topical application specifically for cattle. It should not be administered to other species as severe adverse reactions, including fatalities in dogs, may occur (See also section 4.5).

4.4 Special warnings for each target species

Do not treat cattle when their hide is wet.

Do not treat cattle if rain is expected, as rain within 2 hours of treatment may reduce efficacy.

Do not apply to areas of skin which have mange scabs or other lesions, or to areas contaminated with mud or manure.

To avoid secondary reactions due to the death of *Hypoderma* larvae in the oesophagus or in the spine, it is recommended to administer the product at the end of warble fly activity and before the larvae reach their resting sites.

4.5 Special precautions for use

Special precautions for use in animals

The product has been formulated for topical application specifically for cattle. It should not be administered to other species as severe adverse reactions may occur. Cases of intolerance with fatal outcome are reported in dogs, especially Collies, Old English Sheepdogs and related breeds or crosses, and also in turtles/tortoises.

It is recommended to treat all animals within a herd or group.

The shedding of nematode eggs can continue for some time after treatment.

Frequent and repeated use may lead to the development of resistance. It is important that the correct dose is given in order to minimise the risk of resistance. To avoid under dosing animals should be grouped according to their body weight and dosed according to the heaviest animal in the group.

Close container after use.

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

May be irritating to human skin and eyes and the user should be careful not to apply it to himself or other persons.

Operators should wear rubber gloves, boots, goggles and a waterproof coat when applying the product. Protective clothing should be washed after use.

As absorption through skin can occur, in the event of accidental skin contact, wash the affected area immediately with soap and water.

If accidental eye exposure occurs, flush the eyes immediately with water and get medical attention.

Do not smoke, eat or drink while handling the product.

Wash hands after use.

Use only in well ventilated areas or outdoors.

Highly inflammable, keep away from heat, sparks, open flame or other sources of ignition.

4.6 Adverse reactions (frequency and seriousness)

None known.

4.7 Use during pregnancy, lactation or lay

Studies in laboratory animals have shown neither embryotoxic nor teratogenic effects with ivermectin.

Can be used during pregnancy and lactation provided that the milk is not intended for human consumption.

Please also see section 4.3.

4.8 Interaction with other medicinal products and other forms of interactions

Do not combine ivermectin treatment with vaccination against lungworms. If vaccinated animals are to be treated, treatment should not be carried out within a period of 28 days before or after vaccination.

4.9 Amounts to be administered and administration route

Assess bodyweight as accurately as possible before calculating the dosage.

Dosage

1ml per 10kg body weight (based on a recommended dosage level of 500 micrograms per kg body weight).

Administration

For topical application.

The formulation should be applied along the mid-line of the back in a narrow strip between the withers and tailhead.

The 250 ml and 1.0 litre packs must be used with appropriate dosing equipment.

Instructions for using the dispensing chamber:

- a) Take dip tube and insert end into base of measuring cap with slotted end going to the bottom of the container.
- b) Remove shipping cap from container.
- c) Screw measuring cap onto container.
- d) Select the correct dose rate by rotating the adjuster cap in either direction to position the dose indicator to the appropriate dose.
- e) Gently squeeze the bottle to fill to level (any excess will return to the bottle) and then tip and apply to animal along backline.

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

No signs of toxicity appeared in trials up to 3 times the recommended dose rate.

Clinical symptoms of ivermectin toxicity include ataxia and depression.

No antidote has been identified. In case of overdose, symptomatic treatment should be given.

4.11 Withdrawal period(s)

Meat and offal: 31 days.

Milk: Not permitted for use in lactating cattle producing milk for human consumption. Do not use in non-lactating dairy cows, including pregnant dairy heifers, within 60 days of calving.

5 PHARMACOLOGICAL or IMMUNOLOGICAL PROPERTIES

Ivermectin is a mixture of two compounds belonging to the avermectin family, which are a macrocyclic lactone group of endectocides. Avermectin is a microbial metabolite of the soil organism *Streptomyces avermilitis*.

ATC vet code: QP54AA01.

Therapeutic group: endectocide.

5.1 Pharmacodynamic properties

It is generally accepted that ivermectin exerts its action in two main ways, interference with neurotransmission and opening chloride ion channels. The effect of ivermectin on the parasitic CNS is considered to operate through glutamate-mediated chloride channels. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA).

The opening of pre-synaptic chloride ion channels results in an efflux of chloride ions and depolarisation of the nerve terminal. These effects interfere with normal neurotransmission between nerves and muscles, resulting in parasite paralysis and eventual death.

5.2 Pharmacokinetic particulars

After administration of Kilo-mec Pour-On, the ivermectin is absorbed through the skin into the circulation of the treated animal. The maximum concentration in plasma occurs around 70 hours after application. Peak concentrations of about 7 ng/ml are obtained.

The residual antiparasitic effect of ivermectin is due to its persistence, which in turn is due in part to its long intrinsic half-life ($t_{1/2\beta}$ of approximately 210 hours), in part to its relatively high plasma protein binding (80% in cattle; binding remains relatively constant over time) and in part to the nature and type of the ivermectin formulation.

Elimination is in the faeces (via biliary excretion). Over 60% of the dose is excreted after 3 days.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Isopropyl Alcohol
Polypropoxylate-2-myristyl ether propionate
N-methyl-2-pyrrolidone
Benzyl Alcohol
Water

6.2 Major incompatibilities

None known.

6.3 Shelf-life

Shelf life of the veterinary medicinal product as packaged for sale: 2 years.

Shelf life after first opening the immediate container: 6 months.

6.4 Special precautions for storage

Do not store above 25°C.

Protect from direct light.

Store in tightly closed, original container.

6.5 Nature and composition of immediate packaging

- 250 ml white non-flourinated and fluorinated high-density polyethylene bottle with a drawing tube and measuring device.
- 250 ml natural fluorinated high-density polyethylene pour-on bottle with internal graduated calibration chamber.
- 1.0 L white non-fluorinated and fluorinated high-density polyethylene bottle with a drawing tube and measuring device.
- 2.5 L white non-fluorinated and fluoroinated high-density polyethylene back-pack with polypropylene strap and vented cap.
- 5.0 L white non-fluorinated and fluoroinated high-density polyethylene back-pack with polypropylene strap and vented cap.

Closure: White polypropylene screw-cap.

Not all pack sizes may be marketed.

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

The product is extremely dangerous to fish and aquatic life. Do not contaminate surface water or ditches with product or the used container. Any unused product or waste material should be disposed of in accordance with national requirements.

7 MARKETING AUTHORISATION HOLDER

ECO Animal Health Europe Limited
6th Floor
South Bank House
Barrow Street
Dublin 4
D04 TR29
Ireland

8 MARKETING AUTHORISATION NUMBER(S)

VPA22693/018/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

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Date of last renewal: 24 January 2006

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