Summary of Product Characteristics

1 NAME OF THE VETERINARY MEDICINAL PRODUCT

Cydectin TriclaMox 5 mg/ml + 200 mg/ml Pour-on Solution for cattle

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

Active substances

Moxidectin 5.0 mg
Triclabendazole 200.0 mg

Excipients

Butylhydroxytoluene (E321) 5.0 mg For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Pour-on solution.
A clear, amber liquid.

4 CLINICAL PARTICULARS

4.1 Target Species

Cattle

4.2 Indications for use, specifying the target species

In cattle:
Treatment of mixed trematode (fluke) and nematode infections and certain arthropod infestations caused by moxidectin and triclabendazole sensitive strains of:

Parasite	Adult stage		Inhibited stages
NEMATODES		L4	
Gastro-intestinal nematodes:			
Haemonchus placei	●	●	
Ostertagia ostertagi	●	●	●
Trichostrongylus axei	●	●	
Nematodirus helvetianus	●	●	
Cooperia oncophora	●	●	
Cooperia punctata	●		
Oesophagostomum radiatum	●		
Bunostomum phlebotomum	●		
Respiratory tract nematode:			
Dictyocaulus viviparus	●		
TREMATODES			
Liver fluke:		6 – 8 weeks immatures	
Fasciola hepatica	●	●	

ECTOPARASITES			
Linognathus vituli	●		
Bovicola bovis	●		
Solenopotes capillatus	●		

The product has a persistent effect in preventing re-infection by *Ostertagia ostertagi*and by *Dictyocaulus viviparus*for 5 weeks after a single dose.

4.3 Contraindications

Do not use in cases of known hypersensitivity to the active substance(s) or to any of the excipient(s).

4.4 Special warnings for each target species

Care should be taken to avoid the following practices because they increase the risk of development of resistance and could ultimately result in ineffective therapy:

- Too frequent and repeated use of anthelmintics from the same class, over an extended period of time.
- Underdosing, which may be due to underestimation of body weight, misadministration of the product, or lack of calibration of the dosing device (if any).

Suspected clinical cases of resistance to anthelmintics should be further investigated using appropriate tests (e.g. Faecal Egg Count Reduction Test). Where the results of the test(s) strongly suggest resistance to a particular anthelmintic, an anthelmintic belonging to another pharmacological class and having a different mode of action should be used.

Resistance to moxidectin has been reported mainly in *Cooperia oncophora* in some European countries. Resistance to other MLs in some strains of Cooperia spp. can imply concurrent resistance to Moxidectin. Resistance to triclabendazole has been reported in *Fasciola hepatica*in cattle in some European countries. Triclabendazole resistant *F. hepatica* hosted in sheep can be transferred to cattle grazing the same pasture. Therefore the use of this product should be based on local (regional, farm) epidemiological information about susceptibility of parasites, local history of treatments and recommendations on how to limit further selection for resistance to anthelmintics.
This product should not be used for the treatment of single infections.
It has been shown that rainfall immediately before or within 2 hours after treatment will not affect the efficacy of the product.

4.5 Special precautions for use

Special precautions for use in animals
This product has been formulated specifically for pour-on administration for cattle and must not be given by any other route of administration or to any other species.

Special precautions to be taken by the person administering the veterinary medicinal product to animals
People with known hypersensitivity to the active substance should not handle the product. This product may cause skin and eye irritation.
Avoid direct contact with skin and eyes.
Wear gloves, protective work clothing and safety glasses when using the product.
If splashed in the eye or on the skin, wash with plenty of clean, running water immediately.
If irritation persists, seek medical advice and show the label to the doctor. Do not smoke, drink or eat while handling the product. Wash hands after use.

Other precautions regarding impact on the environment
Moxidectin fulfils the criteria for a (very) persistent, bioaccumulative and toxic (PBT) substance; therefore, exposure of the environment to moxidectin must be limited to the extent possible. Treatments should be administered only when necessary and should be based on faecal egg counts or evaluation of the risk of infestation at the animal and/or herd level.
Like other macrocyclic lactones, moxidectin has the potential to adversely affect non-target organisms:

- Faeces containing moxidectin excreted onto pasture by treated animals may temporarily reduce the abundance of dung feeding organisms. Following treatment of cattle with the product, levels of moxidectin that are potentially toxic to dung fly species may be excreted over a period more than 2 weeks and may decrease dung fly abundance during that period. It has been established in laboratory tests that moxidectin may temporarily affect dung beetle reproduction; however, field studies indicate no-long term effects. Nevertheless, in case of repeated treatments with moxidectin (as with products of the same anthelmintic class) it is advisable not to treat animals every time on the same pasture to allow dung fauna populations to recover.
- Moxidectin is inherently toxic to aquatic organisms including fish. The product should be used only according to the label instructions. Based on the excretion profile of moxidectin when administered as the pour-on formulation, treated animals should not have access to watercourses during the first week after treatment.

4.6 Adverse reactions (frequency and seriousness)

Digestive tract disorders such as diarrhoea, neurological disorders such as ataxia, hypersensitivity/allergic reactions and skin irritation at application site may be observed very rarely.
The frequency of adverse reactions is defined using the following convention:
- very common (more than 1 in 10 animals treated displaying adverse reaction(s) during the course)
- 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)

4.7 Use during pregnancy, lactation or lay

The product is safe for use in pregnant and lactating animals.

4.8 Interaction with other medicinal products and other forms of interactions

None known.

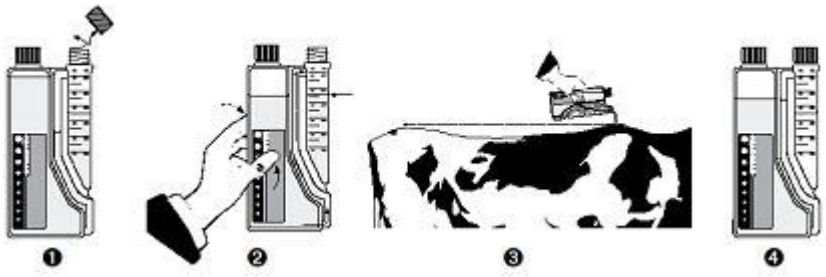
4.9 Amounts to be administered and administration route

For external use only.
0.5 mg moxidectin/kg body weight and 20 mg triclabendazole/kg body weight (equivalent to 1 ml of solution for 10 kg) and as a single topical application.

To be administered directly to the hair and skin along the midline of the back of the animal from the withers to the tail head.

Apply to clean healthy skin.
To ensure administration of a correct dose, bodyweight should be determined as accurately as possible; accuracy of the dosing device should be checked. If animals are to be treated collectively rather than individually, they should be grouped according to their bodyweight and dosed accordingly, in order to avoid under- or overdosing.
Shake before use.
Directions for using the Squeeze-Pour System(500 ml and 1 litre bottles only) :

- Step 1: Remove screw cap from dispensing chamber only. Remove foil seal.
- Step 2: Gently squeeze the bottle to fill the measuring chamber with the required amount of liquid.
- Step 3: Pour the measured volume of fluid from the chamber onto the animal as directed.
- Repeat steps 2 and 3 for subsequent animals
- Step 4: Reapply the screw cap to the dispensing chamber after use.



Directions for using a pour-on applicator (2.5 and 5 litre backpack):

- Connect the pour-on applicator to the backpack as follows:
- Attach the open end of the draw-off tubing to the cap with the stem.
- Replace shipping cap with the cap that has the draw-off tubing. Tighten the draw-off cap.
- Gently prime the pour-on applicator, checking for leaks.
- Follow manufacturer's directions for correct use and care of equipment.

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

Signs of overdoses have not been seen at 5 times the recommended dose. However, if they do occur they should be consistent with the mode of action of moxidectin and would be manifested as transient salivation, depression, drowsiness and ataxia. Treatment is not generally necessary and recovery is generally complete within 24 to 48 hours. There is no specific antidote.

4.11 Withdrawal period(s)

Meat and offal: 143 days.
Milk: Do not use in cattle of any age intended to produce milk for human consumption.
Due to the significant likelihood of cross-contamination of non-treated animals with this product due to grooming (licking), treated animals should be housed separately from non-treated animals throughout the withdrawal period. Non-compliance with this recommendation may lead to residues violations in non-treated animals.

5 PHARMACOLOGICAL or IMMUNOLOGICAL PROPERTIES

Pharmacotherapeutic group: antiparasitic product, endectocides
ATC vet code: QP54AB52, moxidectin combination

5.1 Pharmacodynamic properties

Moxidectin is an endectocide active against a wide range of internal and external parasites and is a second generation macrocyclic lactone of the milbemycin family. Its principal mode of action is interfering with neuromuscular transmission of the GABA (gamma amino butyric acid)-gated or glutamate-gated chloride channels. Moxidectin stimulates the release of GABA and increases its binding to the postsynaptic receptors, and binds to the glutamate-gated chloride channels. The net effect is to open the chloride channels on the postsynaptic junction to allow the inflow of chloride ions and induce an irreversible resting state. This results in flaccid paralysis and eventual death of parasites exposed to the drug. Triclabendazole is a flukicide belonging to the benzimidazole group of anthelmintics. It is well established that benzimidazole anthelmintics selectively bind to ß-tubulin, thus causing the depolymerisation of microtubules and the subsequent disruption of microtubule-based processes in helminths.

5.2 Pharmacokinetic particulars

Moxidectin is distributed throughout the body tissues but due to its lipophilicity the highest drug concentrations are obtained in fat tissue. Moxidectin undergoes biotransformation by hydroxylation. The only significant route of excretion is the faeces. The main pharmacokinetic parameters of moxidectin when administered as pour-on in the final combined formulation of this product were the following: AUC last 50.9 ng.d.mL-1, Cmax 4.69 ng.mL-1, Tmax 8.7 d, MRT 10.74 d.
The majority of the oral dose of triclabendazole in rats, sheep, goats and rabbits is eliminated in faeces after 6-10 d, as unchanged drug or products of biliary excretion. Urinary excretion is minimal. Sulphone, sulphoxide, ketone and 4-hydroxy triclabendazole derivatives are the main metabolites identified in plasma. Plasma kinetic studies of sulfoxide and sulfone

derivatives in various species after oral administration showed the sulfoxide to predominate in rabbits, sheep and humans, and the sulfone in the horse, dog and cattle. The main pharmacokinetic parameters of triclabendazole sulfoxide when administered in the final combined formulation of this product were: AUC last 26.9 µg.h.mL-1, Cmax 2.92 µg.mL-1, Tmax 3.3 d, MRT 9.72 d. The main pharmacokinetic parameters of triclabendazole sulfone when administered in the final combined formulation were: AUC last 110.2 µg.h.mL-1, Cmax 7.78 µg. mL-1, Tmax 12.9 d, MRT 12.98 d.

Environmental properties
Moxidectin fulfils the criteria for a (very) persistent, bioaccumulative and toxic (PBT) substance. In particular, in acute and chronic toxicity studies with algae, crustaceans and fish, moxidectin showed toxicity to these organisms, yielding the following endpoints:

Organism		**EC_{50}**	**NOEC**
Algae	*S. capricornutum*	>86.9 µg/l	86.9 µg/l
Crustaceans (Water fleas)	*Daphnia magna* (acute)	0.0302 µg/l	0.011 µg/l
	Daphnia magna (reproduction)	0.0031 µg/l	0.010 µg/l
Fish	*O. mykiss*	0.160 µg/l	Not determined
	L. macrochirus	0.620 µg/l	0.52 µg/l
	P. promelas (early life stages)	Not applicable	0.0032 µg/l
	Cyprinus carpio	0.11 µg/l	Not determined

EC_{50}: the concentration which results in 50% of the test species individuals being adversely affected, i.e. both mortality and sub-lethal effects.
NOEC: the concentration in the study at which no effects are observed.
This implies that when allowing moxidectin to enter water bodies, this may have a severe and lasting impact on aquatic life. To mitigate this risk, all precautions for use and disposal must be adhered to.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Butylhydroxytoluene (E321)
γ-Hexalactone
Cineole
Caprylocaproyl Macrogolglycerides

6.2 Major incompatibilities

In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

6.3 Shelf-life

Shelf-life of the veterinary medicinal product as packaged for sale: 2 years.
Shelf-life after first opening the immediate packaging: 6 months.

6.4 Special precautions for storage

Do not store above 25°C.
Protect from light.
Do not freeze.
If accidentally frozen, shake vigorously before use.

6.5 Nature and composition of immediate packaging

0.5, 1, 2.5 and 5 litre HDPE containers with polypropylene screw cap and polyethylene inner seal.
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

Any unused veterinary medicinal product or waste material derived from such veterinary medicinal products should be disposed of in accordance with local requirements. Do not contaminate watercourses with the product. The product should not enter water courses as this may be dangerous for fish and other aquatic organisms.

7 MARKETING AUTHORISATION HOLDER

Zoetis Belgium S.A.
2nd Floor, Building 10
Cherrywood Business Park, Loughlinstown
Co Dublin
Ireland

8 MARKETING AUTHORISATION NUMBER(S)

VPA10387/017/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 5 April 2012
Date of last renewal: 20 March 2017

10 DATE OF REVISION OF THE TEXT

January 2021