

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

EQVALAN DUO, oral paste

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each g contains:

Active substances:

Ivermectin	15.5 mg
Praziquantel	77.5 mg

Excipients:

Qualitative composition of excipients and other constituents	Quantitative composition if that information is essential for proper administration of the veterinary medicinal product
<i>Titanium dioxide (E171)</i>	<i>20 mg</i>
<i>Sunset Yellow (E110)</i>	<i>0.40 mg</i>
<i>Buthylhydroxyanisole (E320)</i>	<i>0.20 mg</i>
<i>Hydroxypropylcellulose</i>	
<i>Hydrogenated castor oil</i>	
<i>Glycerol formal</i>	

Smooth, homogeneous orange paste.

3. CLINICAL INFORMATION

3.1 Target species

Horses.

3.2 Indications for use for each target species

For the treatment of mixed cestode and nematode or arthropod infestations in horses. The following parasites of horses are sensitive to the antiparasitic effects of the veterinary medicinal product.

Adult Tapeworms:

Anoplocephala perfoliata
Anoplocephala magna

Large strongyles:

Strongylus vulgaris (adults and arterial larval stages)
Strongylus edentatus (adults and tissue larval stages)
Strongylus equinus (adults)
Triodontophorus spp. (adults)
Triodontophorus brevicauda
Triodontophorus serratus
Craterostomum acuticaudatum (adults)

Adult and immature (intraluminal fourth-stage larvae) of small strongyles or cyathostomes, including benzimidazole-resistant strains:

Coronocylus spp.
Coronocylus coronatus
Coronocylus labiatus
Coronocylus labratus
Cyathostomum spp.
Cyathostomum catinatum
Cyathostomum pateratum
Cylicocylus spp.
Cylicocylus ashworthi
Cylicocylus elongatus
Cylicocylus insigne
Cylicocylus leptostomum
Cylicocylus nassatus
Cylicodontophorus spp.
Cylicodontophorus bicornatus
Cylicostephanus spp.
Cylicostephanus calicatus
Cylicostephanus goldi
Cylicostephanus longibursatus
Cylicostephanus minutus
Parapoteriostomum spp.
Parapoteriostomum mettami
Petrovinema spp.
Petrovinema poculatum
Poteriostomum spp.

Adult hairworms: *Trichostrongylus axei*

Adult and immature (fourth stage Larvae) pinworms: *Oxyuris equi*

Adult, third- and fourth-stage larvae of roundworms (ascarids): *Parascaris equorum*

Microfilariae of neck threadworms: *Onchocerca* spp.

Adult intestinal threadworms: *Strongyloides westeri*

Adult large-mouth stomach worms: *Habronema muscae*

Oral and, gastric stages of bots: *Gasterophilus* spp.

Adult and immature (inhibited fourth stage larvae) lungworms: *Dictyocaulus arnfieldi*

3.3 Contraindications

The veterinary medicinal product has been formulated for use in horses only. Cats, Dogs, especially Collies, Old English Sheepdogs and related breeds or crosses, and also turtles and tortoises may be adversely affected by the concentration of

ivermectin in this veterinary medicinal product if they are allowed to ingest spilled paste or have access to used syringes.

3.4 Special warnings

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 veterinary medicinal 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 macrocyclic lactones (which includes ivermectin) has been reported in *Parascaris equorum* in horses in a number of countries, including the EU. Therefore, the use of this veterinary medicinal product should be based on local (regional, farm) epidemiological information about susceptibility of gastro-intestinal nematodes and recommendations on how to limit further selection for resistance to anthelmintics.

3.5 Special precautions for use

Special precautions for safe use in the target species:

Safety studies were not conducted in foals younger than 2 months of age, or in stallions, the use of the veterinary medicinal product is not recommended in these categories of animals.

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

Wash hands after use.

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

This veterinary medicinal product may cause skin and eye irritation. Therefore, the user should avoid contact of the veterinary medicinal product with the skin and the eyes. In case of contact, rinse immediately with plenty of water.

In case of accidental ingestion or eye irritation after contact seek medical advice immediately and show the package leaflet or the label to the physician.

Special precautions for the protection of the environment:

Not applicable.

3.6 Adverse events

Horses:

Rare (1 to 10 animals / 10,000 animals treated):	Oedema ¹ ; pruritus ¹ Inflammation of the mouth, lip and tongue (e.g., oedema, hypersalivation, erythema, tongue disorder and stomatitis) ²
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¹Can occur for some horses with heavy infestation of *Onchocerca* spp. microfilariae following the treatment; such reactions were assumed to be the result of the death of large numbers of microfilariae. These signs resolve within a few days but symptomatic treatment may be advisable. In cases of heavy infestations with tapeworms, signs of mild, transient colic and loose stool may be observed.

²These reactions have been transitory in nature, appearing within 1 hour and abating within 24 to 48 hours following administration. In case of severe oral reactions symptomatic treatment is recommended.

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal product. Reports should be sent, preferably via a veterinarian, to either the marketing authorisation holder or its local representative or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

3.7 Use during pregnancy, lactation or lay

Studies performed in laboratory animals showed no teratogenic or embryotoxic effect of either ivermectin or praziquantel at the recommended doses during therapy.

Ivermectin-Praziquantel combination can be used after the first three months of gestation and during lactation. In the absence of clinical data in early pregnancy the veterinary medicinal product can only be used in the first three months of gestation according to a risk benefit analysis by the veterinarian.

3.8 Interaction with other medicinal products and other forms of interaction

No data available.

3.9 Administration routes and dosage

Oral use.

Dosage:

The recommended dosage is 200 mcg/kg bw of ivermectin and 1 mg/kg bw of praziquantel corresponding to 1.29 g of paste per 100 kg bodyweight in a single administration.

Bodyweight and dosage should be accurately determined prior to treatment. For syringes intended to treat horses up to 600 kg and 1100 kg, calibrated markings are

provided at 100 kg bodyweight intervals. For the syringe intended to treat horses up to 750 kg, calibrated markings are provided at 125 kg bodyweight intervals. The syringe should be adjusted to the calculated dosage by setting the ring on the appropriate place on the plunger.

Method of administration:

To ensure a correct dosage, body weight should be determined as accurately as possible.

While holding the plunger, turn the knurled ring on the plunger $\frac{1}{4}$ turn to the left and slide it so the stop ring is at the prescribed weight marking. Lock the ring in place by turning it $\frac{1}{4}$ turn to the right in order to bring the two arrows, the one visible on the ring and the one on the plunger rod, into alignment. Make sure the horse's mouth contains no feed. Remove the cover from the tip of the syringe. Insert the syringe tip into the horse's mouth at the interdental space and deposit the paste on the base of the tongue. Immediately raise the horse's head for a few seconds after dosing and ensure that the paste is consumed.

Parasite control Program

Veterinary advice should be given on appropriate dosing programs and stock management to achieve adequate parasite control for both tapeworm and roundworm infestations.

3.10 Symptoms of overdose (and where applicable, emergency procedures and antidotes)

No undesirable effects related to treatment were observed in 2 months old horses treated with the veterinary medicinal product at up to three times the recommended dose and in adult horses treated at ten times the recommended dose.

Transient decreased food consumption, increased body temperature, salivation and impairment of vision were noticed in horses treated twice with an ivermectin oral paste or once with the veterinary medicinal product at ten times the recommended dose (i.e., 2 mg/kg b.w.). All changes disappeared within five days.

No antidote has been identified; however, symptomatic therapy may be beneficial.

3.11 Special restrictions for use and special conditions for use, including restrictions on the use of antimicrobial and antiparasitic veterinary medicinal products in order to limit the risk of development of resistance

Not applicable.

3.12 Withdrawal periods

Meat and offal: 30 days

Not authorised for use in animals producing milk for human consumption.

4. PHARMACOLOGICAL INFORMATION

4.1 ATCvet code: QP54AA51

4.2 Pharmacodynamics

Ivermectin is a member of the macrocyclic lactone class of endectocides. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells. This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, which results in paralysis and death of the parasite. 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 margin of safety for compounds of this class is attributable to the fact that mammals do not have glutamate-gated chloride channels, the macrocyclic lactones have a low affinity for other mammalian ligand-gated chloride channels, and macrocyclic lactones do not readily cross the blood-brain barrier.

Praziquantel is a synthetic isoquinoline-pyrazine derivative with activity against several trematode and cestode parasites. In vitro and in vivo studies have found that trematodes and cestodes rapidly take up praziquantel within minutes; praziquantel causes tetanic contraction of the parasites' musculature and a rapid vacuolisation of their tegument. The net effect is that the parasite detaches from the host. Praziquantel affects membrane permeability in trematodes and cestodes, and influences divalent cation fluxes, particularly calcium ion homeostasis, which is thought to contribute to the rapid muscle contraction and vacuolisation. The margin of safety for the praziquantel is due to its rapid metabolism and excretion as well as its selective effect on susceptible parasites.

4.3 Pharmacokinetics

After oral administration to horses of the recommended dose of the veterinary medicinal product, praziquantel is rapidly absorbed and excreted, whereas ivermectin is more slowly absorbed and persists during a longer period in the body. Praziquantel maximum plasma concentrations (of the order of 1 µg/ml) are reached rapidly (approximately in the hour following treatment). The praziquantel plasma residue depletes rapidly to non-quantifiable levels by 7.5 hours post dose. Praziquantel is excreted as metabolites in the urine and faeces and the total amount excreted accounts for 31% and 24%, respectively of the administered dose within 24 hours.

Ivermectin maximum plasma concentrations (C_{max} : 37.9 ng/ml) are reached in a longer period (t_{max} : approximately 9 hours after treatment) and levels fell to nondetectable / no quantifiable values on or before 28 days after administration. Faecal excretion is the major pathway of ivermectin elimination in all species studied. No pharmacological interference between ivermectin and praziquantel was noted.

Environmental properties

EXTREMELY DANGEROUS FOR FISH AND AQUATIC LIFE (see also section 5.5)

5. PHARMACEUTICAL PARTICULARS

5.1 Major incompatibilities

Not applicable.

5.2 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 3 years

Shelf life after first opening the immediate packaging: 2 years

5.3 Special precautions for storage

Store in the original container.

Replace the cap after use.

5.4 Nature and composition of immediate packaging

Immediate package

The veterinary medicinal product is available in syringes containing 7.74 g, 9.68 g or 14.19 g of paste:

For syringe intended for the treatment of horses up to 600 kg, containing 7.74 g of paste: White polypropylene syringes barrel with a white LDPE cap, a rubber rod tip and a white polypropylene plunger rod, with dose divisions calibrated by body weight with an orange polypropylene stop ring.

For syringes intended for the treatment of horses up to 750 kg and 1100 kg, containing 9.68 g or 14.19 g of paste respectively: White polypropylene syringes barrel with an orange rubber cap, a rubber rod tip and a white polypropylene plunger rod, with dose divisions calibrated by body weight with an orange polypropylene stop ring.

Outer package and sales presentations

Each syringe is sealed in a transparent polypropylene bag.

Carton box of 1 syringe for oral administration of 7.74g

Carton box of 1 syringe for oral administration of 9.68g

Carton box of 1 syringe for oral administration of 14.19g

Carton box of 50 syringes for oral administration of 7.74g

Carton box of 50 syringes for oral administration of 9.68g

Carton box of 50 syringes for oral administration of 14.19g

Not all pack sizes may be marketed.

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

Medicines should not be disposed of via wastewater.

The veterinary medicinal product should not enter water course as ivermectin and praziquantel may be dangerous for fish and other aquatic organisms.

Use take-back schemes for the disposal of any unused veterinary medicinal product or waste materials derived thereof in accordance with local requirements and with any national collection systems applicable to the veterinary medicinal product concerned.

6. NAME OF THE MARKETING AUTHORISATION HOLDER

Boehringer Ingelheim Animal Health UK Limited

7. MARKETING AUTHORISATION NUMBER

Vm 08327/5003

8. DATE OF FIRST AUTHORISATION

05 September 2003

9. DATE OF THE LAST REVISION OF THE SUMMARY OF THE PRODUCT CHARACTERISTICS

November 2024

10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCT

Veterinary medicinal product subject to prescription.

Find more product information by searching for the 'Product Information Database' on www.gov.uk.

Gavin Hall
Approved: 18 July 2025