



ANNEX I
SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Paroform 70 mg/g powder for use in drinking water, milk or milk replacer for pre-ruminant cattle and pigs.

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Per 1 gram:

Active substance:

Paromomycin sulfate	100 mg, equivalent to paromomycin base 70 mg or 70.000 IU of paromomycin activity
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Excipients:

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Powder for use in drinking water, milk or milk replacer
A white to almost white powder.

4. CLINICAL PARTICULARS

4.1 Target species

Pre-ruminant cattle, pig.

4.2 Indications for use, specifying the target species

Treatment of gastro-intestinal infections caused by *Escherichia coli* susceptible to paromomycin.

4.3 Contraindications

Do not use in animals with known hypersensitivity to paromomycin, other aminoglycosides or any of the excipients.

Do not use in cases with impaired function of the kidneys or liver.

Do not use in ruminating animals.

Do not use in turkeys due to the risk of selection for antimicrobial resistance in intestinal bacteria.

4.4 Special warnings for each target species

None.

4.5 Special precautions for use

Special precautions for use in animals

The uptake of medication by animals can be altered as a consequence of illness. In case of insufficient uptake of water/milk animals should be treated parenterally using a suitable injectable product following the advice of the veterinarian.

The use of the product should be combined with good management practices e.g. good hygiene, proper ventilation, no overstocking.

Since the product is potentially ototoxic and nephrotoxic, it is recommended to assess kidney function.

Do not use in newborns (calf, piglet) due to higher absorption of paromomycin and subsequently an

increased risk of oto- and nephrotoxicity.

Prolonged or repeated use of the product should be avoided by improving management practices and through cleansing and disinfection.

Use of the product should be based on susceptibility testing of the bacteria isolated from the animal. If this is not possible, therapy should be based on local (regional, farm level) epidemiological information about susceptibility of the target bacteria. Official, national and regional antimicrobial policies should be taken into account when the product is used.

Use of the product deviating from the instructions given in the SPC may increase the prevalence of bacteria resistant to paromomycin and may decrease the effectiveness of treatment with aminoglycosides due to the potential for crossresistance.

Aminoglycosides are considered as critical in human medicine. Consequently, they should not be used as a first intention treatment in veterinary medicine.

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

People with known hypersensitivity to aminoglycosides should avoid contact with the veterinary medicinal product.

Personal protective equipment consisting of protective clothing and impervious gloves should be worn when handling the veterinary medicinal product.

Do not eat, drink and smoke when handling the product. Wash hands after use. In case of accidental ingestion, seek medical advice immediately and show the label to the physician.

When handling this product, inhalation of the dust must be avoided by wearing a disposable half-mask respirator conforming to European Standard EN 149 or a non-disposable respirator to European Standard EN 140 with a filter to EN 143.

Use in a well-ventilated area. Avoid inhaling the powder while preparing the medicated water or milk replacer. Avoid contact with the skin and eyes. In the event of accidental contact with the skin or eyes, rinse with plenty of water and seek medical attention if irritation persists.

4.6 Adverse reactions (frequency and seriousness)

In rare occasions soft faeces has been observed.

Aminoglycoside antibiotics such as paromomycin can cause phenomena such as oto- and nephrotoxicity.

4.7 Use during pregnancy, lactation or lay

Laboratory studies in rat and rabbit have not produced any evidence of teratogenic, foetotoxic, maternotoxic effects. The use is not recommended during the whole pregnancy.

4.8 Interaction with other medicinal products and other forms of interaction

General anaesthetics and muscle relaxing products increases the neuro-blocking effect of aminoglycosides. This may cause paralysis and apnoea.

Do not use concurrently with strong diuretics and potentially oto- or nephrotoxic substances.

4.9 Amounts to be administered and administration route

Oral use

Pre-ruminant cattle: administration in milk/milk replacer

Pigs: administration in drinking water.

Duration of treatment: 3-5 days

Pre-ruminant cattle: 25-50 mg paromomycin sulfate per kg BW/day (equivalent to 2.5-5 g of product/10 kg BW/day)

Pigs: 25-40 mg paromomycin sulfate per kg BW/day (equivalent to 2.5-4 g of product/10 kg BW/day)

For the administration through the drinking water milk or milk replacer, the exact daily amount of product should be calculated, based on the recommended dose, and the number and weight of the animals to be treated, according to the following formula:

$$\frac{\text{mg product / kg body weight / day} \times \text{Mean body weight (kg) of animals to be treated}}{\text{Mean daily water/milk/milk replacer consumption (litre) per animal}} = \text{.... mg product per litre drinking water /milk/milk replacer}$$

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

The uptake of medicated water/milk /milk replacer depends on several factors including clinical conditions of the animals and the local conditions such as ambient temperature and humidity. In order to obtain the correct dosage, drinking water/milk/milk replacer uptake has to be monitored and the concentration of paromomycin has to be adjusted accordingly.

Medicated drinking water/milk/milk replacer and any stock solutions should be freshly prepared every 6 hours (in milk/milk replacer) or every 24 hours (in water).

To assure administration of the exact daily amount of product suitably calibrated weighing equipment should be used.

For the administration of the product commercially available dosing pumps can be used. The solubility of the product has been tested at the maximum concentration of 95 g/L.

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

Paromomycin when administered orally is hardly absorbed systemically. Harmful effects due to accidental overdosing are highly unlikely.

4.11 Withdrawal period(s)

Pre-ruminant cattle

Meat and offal: 20 days

Pig

Meat and offal: 3 days

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: intestinal anti-infectives; antibiotics.

ATC vet code: QA 07 AA 06.

5.1 Pharmacodynamic properties

Paromomycin belongs to the group of aminoglycoside antibiotics. Paromomycin changes the reading of messenger-RNA, which disrupts protein synthesis. The bactericidal activity of paromomycin is mainly attributed to its irreversible binding to ribosomes. Paromomycin has broad spectrum activity against numerous Gram-positive and Gram-negative bacteria, including *E. coli*.

Paromomycin acts in a concentration-dependant manner. Four mechanisms of resistance have been identified: changes of the ribosome, reduction of permeability, inactivation by enzymes and substitution of the molecular target. The first three resistance mechanisms arise from mutations of certain genes on chromosomes or plasmids. The fourth resistance mechanism only occurs following intake of a transposon or plasmid coding for resistance. Paromomycin selects for resistance and cross-resistances at high frequency against a variety of other aminoglycosides among intestinal bacteria.

5.2 Pharmacokinetic properties

Following oral administration of paromomycin, hardly any absorption takes place and the molecule is eliminated unchanged via the faeces.

5.3 Environmental properties

The active ingredient paromomycin sulfate is persistent in the environment.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Silica, colloidal anhydrous
Glucose monohydrate

6.2 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.

Shelf life after reconstitution in drinking water: 24 hours

Shelf life after reconstitution in milk/milk replacer: 6 hours

6.4. Special precautions for storage

Product as packed for sale: do not store above 30°C.

After first opening: do not store above 25°C. Keep the sachet tightly closed.

After reconstitution: do not store above 25°C.

6.5 Nature and composition of immediate packaging

Block-bottom polyethylene/aluminium/polyethylene terephthalate sachet of 1000 g - 500 g – 250 g

Sachet of polyethylene foil/aluminium/polypropylene foil of 25 g, placed into a cardboard box, 40 sachets per box.

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 in accordance with local requirements.

7. MARKETING AUTHORISATION HOLDER

Huvepharma NV
Uitbreidingstraat 80
2600 Antwerpen
Belgium

8. MARKETING AUTHORISATION NUMBER(S)

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

10. DATE OF REVISION OF THE TEXT

PROHIBITION OF SALE, SUPPLY AND/OR USE