

## **SUMMARY OF PRODUCT CHARACTERISTICS**

### **1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

Paroform 140 mg/ml solution for use in drinking water, milk or milk replacer for pre-ruminant cattle and pigs.

### **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Per 1 ml:

#### **Active substance:**

Paromomycin sulfate 200 mg, equivalent to paromomycin base 140 mg or 140.000 IU of paromomycin activity

#### **Excipients:**

Methyl parahydroxybenzoate (E218)	1.0 mg
Propyl parahydroxybenzoate (E216)	0.1 mg
Sodium metabisulphite (E223)	4.0 mg

For the full list of excipients, see section 6.1.

### **3. PHARMACEUTICAL FORM**

Solution for use in drinking water, milk or milk replacer.  
A clear yellow to amber solution.

### **4. CLINICAL PARTICULARS**

#### **4.1 Target species**

Cattle (pre-ruminant calves), pigs.

#### **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.

Special care should be taken when considering administration of the product to newborn animals due to the known higher gastrointestinal absorption of paromomycin in neonates. This higher absorption could lead to an increased risk of oto- and nephrotoxicity. The use of the product in neonates should be based on a benefit/risk assessment by the responsible veterinarian.

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 line treatment in veterinary medicine.

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

This product contains paromomycin, which can cause allergic reactions in some people.

People with known hypersensitivity (allergy) to paromomycin or any other aminoglycosides should avoid contact with the product.

Avoid contact with the skin and eyes.

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

In the event of accidental contact with the skin or eyes, rinse with plenty of water.

If you develop symptoms following exposure, such as skin rash, you should seek medical advice and show the physician this warning. Swelling of the face, lips and eyes or difficulty in breathing are more serious symptoms and require urgent medical attention.

Do not eat, drink and smoke when handling the product.

Do not ingest. In case of accidental ingestion, seek medical advice immediately and show the label to the physician.

Wash hands after use.

#### **4.6 Adverse reactions (frequency and seriousness)**

On rare occasions soft faeces have been observed.  
Aminoglycoside antibiotics such as paromomycin can cause oto- and nephrotoxicity.

#### 4.7 Use during pregnancy, lactation or lay

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

#### 4.8 Interaction with other medicinal products and other forms of interaction

General anaesthetics and muscle relaxing products increase 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 0.125 – 0.25 ml of product/kg BW/day).

Pigs: 25-40 mg paromomycin sulfate per kg BW/day (equivalent to 0.125 – 0.2 ml of product/kg BW/day).

To ensure accurate measurement of the required volume of product, suitably calibrated measuring equipment should be used.

For administration via 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:

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

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 by carefully mixing the product in the requisite quantity of fresh potable water /milk/milk replacer every 6 hours (in milk/milk replacer) or every 24 hours (in water).

#### **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

Pigs  
Meat and offal: 3 days

### **5. PHARMACOLOGICAL PROPERTIES**

Pharmacotherapeutic group: intestinal anti-infective; antibiotics.

ATC vet code: QA07AA06.

#### **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-dependent 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-resistance to other aminoglycosides at a high frequency in 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 very persistent in the environment.

### **6. PHARMACEUTICAL PARTICULARS**

#### **6.1 List of excipients**

Methyl parahydroxybenzoate (E218)  
Parahydroxybenzoate (E216)

Sodium metabisulfite (E223)  
Purified water

## **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: 3 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 25°C.

After first opening: do not store above 25°C.

After reconstitution: there are no special restrictions on storage conditions.

## **6.5 Nature and composition of immediate packaging**

White high density polyethylene bottle with tamper-evident screw polypropylene closure of 125 ml, 250 ml, 500 ml and 1 L.

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 N.V.  
Uitbreidingstraat 80  
2600 Antwerpen  
Belgium

## **8. MARKETING AUTHORISATION NUMBER**

Vm 30282/4033

## **9. DATE OF FIRST AUTHORISATION**

25 July 2017

## **10. DATE OF REVISION OF THE TEXT**

July 2017

Approved: 25 July 2017

D. Austin