

## 1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Aqupharm 11 (Hartmann's) Solution for Infusion (UK(NI), IE)

Aqupharm Ringer-Lactate Solution for Infusion (FI)

Aqupharm Ringer Lactate Solution for Infusion (FR, BE, HU, NL)

## 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

### Active substance:

Sodium chloride	6.00 mg
Potassium chloride	0.40 mg
Calcium chloride (as dihydrate)	0.204 mg
Corresponding to calcium chloride dihydrate	0.27 mg
Sodium S-lactate (as sodium lactate (60% w/v))	3.10 mg

Sodium	130.32 mmol/litre
Potassium	5.36 mmol/litre
Calcium	1.82 mmol/litre
Bicarbonate (as lactate)	27.65 mmol/litre
Chloride	111.68 mmol/litre

### Excipients:

For the full list of excipients, see section 6.1.

## 3. PHARMACEUTICAL FORM

Solution for infusion.

Clear, colourless particle free solution/

## 4. CLINICAL PARTICULARS

### 4.1 Target species

Cattle, Horses, Sheep, Goats, Pigs, Dogs, Cats and Rabbits

### 4.2 Indications for use, specifying the target species

Treatment of dehydration of extracellular predominance.

Treatment and prevention of perioperative hypovolaemia and haemorrhagic shock.

Treatment of mild metabolic acidosis.

### 4.3 Contraindications

Do not use in cases of:

- congestive heart failure,

- hyperkalaemia,
- hypercalcaemia,
- metabolic alkalosis,
- hyperhydration,
- severe metabolic or lactic acidosis,
- hepatic insufficiency,
- Addison's disease,
- hypernatraemia.

#### **4.4 Special warnings for each target species**

None.

#### **4.5 Special precautions for use**

##### Special precautions for use in animals

Maintain aseptic precautions.

Do not use unless the solution is clear, free from visible particles, and the container is undamaged. A risk of thrombosis with intravenous infusion should be considered. This product does not contain an antimicrobial preservative. It is intended for single use only and any unused contents should be discarded.

The solution should be warmed to approximately to 37° C prior to the administration of large volumes, or if the administration rate is high, in order to avoid hypothermia.

The volume and infusion rate must be adapted to the clinical status of each animal.

This veterinary medicinal product should be used with caution in animals with cardiac or renal impairment as sodium overload may occur. It should be noted that sodium excretion may be impaired post-surgery/trauma.

Use of this solution requires monitoring of the clinical and physiological status of the animal especially in cases of:

- severe renal impairment,
- cardiac impairment,
- sodium retention with oedema,
- treatments with corticosteroids and their derivatives.

Monitor serum potassium and serum calcium in treated animals, particularly potassium levels in cases at risk of hyperkalaemia, such as during chronic renal failure.

In animals with hepatic impairment, the product may not produce its alkalisng action since lactate metabolism may be altered.

Do not inject intramuscularly.

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

None.

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

The use of the product can cause metabolic alkalosis, in cases of excessive administration or impaired metabolism of lactate.

Where the product is used as a drug carrier, this can lead to other adverse events.

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

The safety of the veterinary medicinal product has not been established during pregnancy and lactation. Use only according to the benefit/risk assessment by the responsible veterinarian.

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

Interactions linked to calcium.

In case of concomitant blood transfusion, the product should not be administered with the blood in the same infusion set due to the risk of clotting. This veterinary medicinal product contains calcium. Do not add drugs to this solution that may bind (chelate) to calcium.

#### **4.9 Amounts to be administered and administration route**

Intravenous infusion.

##### Management of dehydration including patients with mild metabolic acidosis

The amount of fluid and electrolytes to be administered should be calculated by adding the existing deficits to the ongoing maintenance requirements and any ongoing fluid losses (e.g. from ongoing vomiting, diarrhoea etc) estimated from the history of the animal, clinical examination and laboratory findings.

To calculate the existing fluid deficit, the following equation should be used;

Fluid deficit (mls) = Percentage dehydration x Bodyweight (kg) x 10

(e.g. for a 10 kg dog with 5% dehydration the fluid deficit would be  $5 \times 10 \times 10 = 500\text{ml}$ )

To calculate the ongoing maintenance requirement, the following equation should be used;

Maintenance for Cattle, Horses, Sheep, Goats, Pigs, Dogs and Cats (mls) = 50ml x Bodyweight (kg) per day

Maintenance of Rabbits (mls) = 75-100ml x Bodyweight (kg) per day

(e.g. for a 10 kg dog, the daily maintenance fluid requirement is  $10 \times 50 = 500\text{ml}$ )

The administration rate should be adjusted to each animal. The objective is to correct the deficit over 12 – 24 hours.

##### Prevention of peri-operative hypovolaemia

Administer at a rate of 5 – 10ml/kg/hr during anaesthesia.

##### Treatment of hypovolaemic and haemorrhagic shock

Cattle, Horses, Sheep, Goats, Pigs, Dogs Rabbits; up to 90ml/kg/hr

Cats; up to 60ml/kg/hr

High infusion rates should not be continued for longer than 1 hour.

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

In the presence of volume overload signs (e.g. restlessness, moist lung sounds, tachycardia, tachypnoea or coughing), treatment should involve administering diuretics and stopping the infusion.

An excessive infusion of product may cause metabolic alkalosis due to the presence of lactate ions.

#### **4.11 Withdrawal period(s)**

Meat and offal: zero days.

Milk: zero hours.

### **5. PHARMACOLOGICAL PROPERTIES**

Pharmacotherapeutic group: Solutions affecting the electrolyte balance.

ATC vet code: QB05BB01.

#### **5.1 Pharmacodynamic properties**

Isotonic crystalloid solutions are for vascular filling and electrolyte replacement. They have an ionic composition very close to the extracellular fluid.

Sodium is the major cation of extracellular fluid. It is responsible for maintaining the volume of liquid and extracellular osmolarity.

Potassium is mainly an intracellular cation.

99% of calcium is present in the skeleton.

Chloride is essentially an extracellular anion.

Lactate produces bicarbonate salts (hence its alkalising effect).

#### **5.2 Pharmacokinetic particulars**

The solution diffuses into the extracellular space whose volume is increased accordingly.

The lactate ion is rapidly metabolised by the liver where it is converted to pyruvate used in the Krebs cycle with production of bicarbonates.

### **6. PHARMACEUTICAL PARTICULARS**

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

Water for injections

#### **6.2 Major incompatibilities**

Compatibility with other medications should be checked prior to mixing in order to avoid precipitate formation, turbidity, or a problem with the pH.

Reference should be made to the SPC of the drug being co-administered for incompatibilities information.

This veterinary medicinal product is incompatible with chlortetracycline, amphotericin B, oxytetracycline, methylprednisolone, and sodium lactate or sodium bicarbonate intravenous infusions. Mixtures with additives and other drugs (e.g. oxalate-, phosphate- and carbonate-/hydrogen carbonate-containing ones) may cause incompatibilities.

#### **6.3 Shelf life**

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

250 ml: 18 months

500 ml, 1000 ml, 3000 ml, 5000 ml: 2 years.

After first opening, use immediately and dispose of any unused product.

#### **6.4. Special precautions for storage**

This veterinary medicinal product does not require any special storage conditions.

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

Polyvinyl chloride (PVC) bag with polyisoprene/polycarbonate/PVC ports, overwrapped with polyolefin/polyamine.

##### Pack sizes

Cardboard box containing

30 bags of 250 ml

20 bags of 500 ml

10 bags of 1000 ml

4 bags of 3000ml

2 bags of 5000ml

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 product should be disposed of in accordance with local requirements.

### **7. MARKETING AUTHORISATION HOLDER**

Ecuphar NV  
Legeweg 157-i  
8020 Oostkamp  
Belgium

### **8. MARKETING AUTHORISATION NUMBER(S)**

### **9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorisation:

Date of last renewal:

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

### **PROHIBITION OF SALE, SUPPLY AND/OR USE**

Not applicable.