

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

B. Braun Vet Care Hartmann's Lactated Ringers Solution for Infusion for Cattle, Horse, Sheep, Goat, Pig, Dog and Cat

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

Active substances:

Sodium chloride	6.00 mg
Potassium chloride	0.40 mg
Calcium chloride	0.204 mg
(as calcium chloride dihydrate)	
(corresponding to 0.270 mg of calcium chloride dihydrate)	
Sodium (S)-lactate	3.12 mg
(as sodium lactate aqueous solution at (50% w/v)	
(corresponding to 6.24 mg of sodium S lactate solution)	

Excipient:

Qualitative composition of excipients and other constituent
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Water for injections

Electrolyte concentrations:

Sodium	130.49	mmol/l
Potassium	5.37	mmol/l
Calcium	1.84	mmol/l
Chloride	111.70	mmol/l
Lactate	27.84	mmol/l

Theoretical osmolarity	277 mOsm/l
Titration acidity	< 1 mmol/l
pH	5.0 - 7.0

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Solution for infusion.

Clear, colourless, aqueous and free from visible particles.

4. CLINICAL PARTICULARS

4.1 Target species

Cattle, horses, sheep, goats, pigs, dogs and cats.

4.2 Indications for use, specifying the target species

Indication for all target animal species:

- Treatment of isotonic or hypotonic dehydration (dehydration of extracellular predominance)
- Treatment and prevention of perioperative hypovolaemia and haemorrhagic shock
- Metabolic mild acidosis
- Maintenance of normal extracellular fluid levels
- Electrolyte replacement in burns

4.3 Contraindications

Do not use in animals with:

- Alkalosis of any origin
- Severe metabolic or lactic acidosis
- Oedema (hepatic, renal, or cardiac)
- Overhydration
- Hyperkalaemia (i.e. untreated Addison's disease), hyponatremia, hyperlactataemia
- Hepatic insufficiency.

Do not use in cases of hypersensitivity to the active substances or to any of the excipients.

4.4 Special warnings for each target species

None.

4.5 Special precautions for use

Special precautions for use in animals

- Before administering this solution the clinical and biological data of the animal have to be carefully examined.
- Monitoring of serum electrolyte levels should be obliged in cases of electrolyte imbalances, such as hypertonic or hypotonic dehydration, or a single increase of one electrolyte (e.g. hyperchloraemia) as well. Furthermore monitoring of the acid-balance and the clinical condition of the animal should accompany the treatment with this veterinary medicinal product.
- During use of this veterinary medicinal product, the fluid volume range must be considered. Infusion of larger than necessary volumes may lead to cardiovascular overload and pulmonary oedema.
- This veterinary medicinal product should be used with caution in animals with cardiac or renal impairment as sodium overload may occur, in case of sodium retention with oedema and in animals treated with corticoids and derivates. 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.
 - Infusion of this solution containing lactate ions may cause metabolic alkalosis.
 - In animals with liver function disorders, the solution may cause acidosis because degradation of lactate into bicarbonate requires an intact liver metabolism.

The risk of thrombosis with intravenous infusion should be considered, especially in case of slow infusion into a large blood vessel. This veterinary medicinal product does not contain an antimicrobial preservative; strict asepsis should be maintained. It is intended for single use only and any unused contents should be discarded.

- Do not inject intramuscularly.
- During treatment clinical and biological state of the animal should be monitored.
- The solution should be administered at body temperature. Warm up the solution only by immersion in hot water (< 40 °C), prior to the administration of large volumes, or if the administration rate is high in order to avoid hypothermia.

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

Not applicable.

Special precautions for the protection of the environment:

Not applicable.

Other precautions

Not applicable.

4.6 Adverse reactions (frequency and seriousness)

Cattle, horses, sheep, goats, pigs, dogs and cats.

Very rare (< 1 animal / 10,000 animals treated, including isolated reports):	Hypothermia Thrombosis, Phlebitis Cardiac disorder ¹ Alkalosis ² Eczema, Skin lesions Allergic oedema, Urticaria
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¹Due to the calcium content, effect on the heart cannot be ruled out.

²In cases of excessive administration or impaired metabolism of lactate.

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 the national competent authority via the national reporting system. See also section 16 of the package leaflet for contact details.

4.7 Use during pregnancy, lactation or lay

The safety of the veterinary medicinal product has not been established during pregnancy or lactation.

Pregnancy and lactation:

Use only accordingly to the benefit/risk assessment by the responsible veterinarian.

4.8 Interactions with other medicinal products and other forms of interactions

In the event of simultaneous blood transfusion, the veterinary medicinal product should not be administered with the blood in the same infusion set due to the risk of blood coagulation (thrombosis).

This veterinary medicinal product is incompatible with methylprednisolone, and sodium lactate or sodium bicarbonate intravenous infusions.

This veterinary medicinal product contains calcium. Veterinary medicinal substances known to chelate to calcium should not be administered concomitantly.

4.9 Amount(s) to be administered and administration route

Intravenous use.

The volume and rate of infusion will depend upon the clinical condition, existing deficits of the animal, maintenance needs and continuing losses.

Generally, aim to correct hypovolaemia by 50 % initially (ideally over 6 hours but faster if necessary) and reassess by clinical examination.

Deficits are generally in the range of 50 ml/kg (mild) to 150 ml/kg (severe). An infusion rate of 15 ml/kg/bw/hour is recommended in the absence of shock (range 5-25 ml/kg/bw/hour).

In shock, high initial infusion rates, up to 90 ml/kg/bw/hour (cats up to 60 ml/kg/h), are needed. High infusion rates should not be continued for longer than 1 hour unless urine output is restored. The maximum infusion rate should be decreased in the presence of cardiac, renal and pulmonary disease.

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

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

Overdose may result in cardiovascular overload and pulmonary oedema. In the presence of volume overload signs (e.g. restlessness, moist lung sounds, tachycardia, tachypnoea, nasal discharge, coughing, vomiting and diarrhoea), treatment should involve administering diuretics and stopping the infusion.

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

4.11 Withdrawal period(s)

Cattle, horses, sheep, goats, pigs:

Meat and offal: Zero days.

Cattle, horses, sheep, goats:
Milk: Zero hours.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: Solutions affecting the electrolyte balance.
ATCvet 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

Due to intravenous administration the bioavailability of the active substances is 100%.

The metabolism of this veterinary medicinal product corresponds to each of its components: Na⁺, K⁺, Ca²⁺, Cl⁻, and lactate.

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

This veterinary medicinal product is incompatible with Chlortetracycline, Amphotericin B and 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.

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:

Plastic bottle: 3 years

Plastic bag: 3 years

Shelf life after first opening the immediate packaging: use immediately.

Any unused contents should be discarded.

6.4 Special precautions for storage

Protect from light.

Keep the bottle and the plastic bag in the outer carton.

Do not refrigerate or freeze.

6.5 Nature and composition of immediate packaging

Low density polyethylene bottles of 250, 500 and 1000 ml. The container is hermetically closed before the closure system is applied. The additional closure cap on top of the sealed polyethylene container is made from polyethylene. Between the container and the closure cap an elastomeric disk is placed.

Three-laminate plastic bag (polypropylene inner layer) of 5000 ml. The bag is equipped with a connection port for an infusion set and with an injection port. The ports are sealed by polypropylene caps with halogenbutyl rubber stoppers.

Pack sizes:

Cardboard boxes containing:

20 bottles with 250 ml solution for infusion

10 bottles with 500 ml solution for infusion

10 bottles with 1000 ml solution for infusion

2 bags with 5000 ml solution for infusion

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

Medicines should not be disposed of via wastewater or household waste.

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 applicable national collection systems. These measures should help to protect the environment.

7. MARKETING AUTHORISATION HOLDER

B. Braun Melsungen AG
Carl-Braun-Strasse 1
34212 Melsungen
Germany

8 MARKETING AUTHORISATION NUMBER

Vm 03551/5001

9. DATE OF FIRST AUTHORISATION

20 July 2010

10. DATE OF REVISION OF THE TEXT

July 2026

PROHIBITION OF SALE, SUPPLY AND/OR USE

Prescription conditions: **To be supplied only on veterinary prescription.**

Administration conditions: **To be administered only by a veterinary surgeon.**

11. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCTS

Veterinary medicinal product subject to prescription.

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

Gavin Hall
Approved: 26 August 2026