

# VETIVEX®

## Veterinary Lactated Ringer's Injection, USP

For Animal Use Only

### Description:

Veterinary Lactated Ringer's Injection, USP is a sterile, nonpyrogenic solution for fluid and electrolyte replenishment in single dose containers for parenteral administration. It contains no antimicrobial agents.

**Table 1:** Veterinary Lactated Ringer's Injection, USP

Size (mL)	Composition (mg/100mL)					pH	Ionic Concentration (mEq/L)					kcal/L
	Sodium Chloride, USP (NaCl)	Sodium Lactate, USP (C <sub>3</sub> H <sub>5</sub> NaO <sub>3</sub> )	Potassium Chloride, USP (KCl)	Calcium Chloride, USP (CaCl <sub>2</sub> · 2H <sub>2</sub> O)	Osmolarity (mOsmol/L) (Calculated)		Sodium	Potassium	Calcium	Chloride	Lactate	
500	600	310	30	20	273	6.5	130	4	2.7	109	28	9
1000						(6.0 to 7.5)						

**Clinical Pharmacology:** Veterinary Lactated Ringer's Injection, USP has value as a source of water and electrolytes. It is capable of inducing diuresis depending on the clinical condition of the patient.

Veterinary Lactated Ringer's Injection, USP produces a metabolic alkalizing effect. Lactate ions are metabolized ultimately to carbon dioxide and water, which requires the consumption of hydrogen cations.

**Indications and Usage:** Veterinary Lactated Ringer's Injection, USP is indicated as a source of water and electrolytes or as an alkalizing agent.

**Warnings:** Do not administer to horses by intraperitoneal injection.

Veterinary Lactated Ringer's Injection, USP should be used with great care, if at all, in patients with congestive heart failure, severe renal insufficiency, and in clinical states in which there exists edema with sodium retention.

Veterinary Lactated Ringer's Injection, USP should be used with great care, if at all, in patients with hyperkalemia, severe renal failure, and in conditions in which potassium retention is present.

Veterinary Lactated Ringer's Injection, USP should be used with great care in patients with metabolic or respiratory alkalosis. The administration of lactate ions should be done with great care in those conditions in which there is an increased level or an impaired utilization of these ions, such as severe hepatic insufficiency.

Veterinary Lactated Ringer's Injection, USP should not be administered simultaneously with blood through the same administration set because of the likelihood of coagulation.

The parenteral administration of Veterinary Lactated Ringer's Injection, USP can cause fluid and/or solute overloading resulting in dilution of serum electrolyte concentrations, overhydration, congested states, or pulmonary edema. The risk of dilutional states is inversely proportional to the electrolyte concentrations of the injections. The risk of solute overload causing congested states with peripheral and pulmonary edema is directly proportional to the electrolyte concentrations of the injections.

In patients with diminished renal function, administration of Veterinary Lactated Ringer's Injection, USP may result in sodium or potassium retention.

Veterinary Lactated Ringer's Injection, USP is not for use in the treatment of lactic acidosis.

**Adverse Reactions:** Reactions which may occur because of the solution or the technique of administration include febrile response, infection at the site of injection, venous thrombosis or phlebitis extending from the site of injection, extravasation, and hypervolemia. If an adverse reaction does occur, discontinue the infusion, evaluate the patient, institute appropriate therapeutic countermeasures, and save the remainder of the fluid for examination if deemed necessary.

**Precautions:** Clinical evaluation and periodic laboratory determinations are necessary to monitor changes in fluid balance, electrolyte concentrations, and acid base balance during prolonged parenteral therapy or whenever the condition of the patient warrants such evaluation.

Veterinary Lactated Ringer's Injection, USP must be used with caution. Excess administration may result in metabolic alkalosis.

Caution must be exercised in the administration of Veterinary Lactated Ringer's Injection, USP to patients receiving corticosteroids or corticotropin. Do not administer unless solution is clear and seal is intact.

**Dosage and Administration:** As directed by a veterinarian. Dosage is dependent upon the age, weight and clinical condition of the patient, as well as laboratory determinations. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration whenever solution and container permit.

All solutions for injection contained in plastic containers are intended for administration using sterile equipment and aseptic technique.

Additives may be incompatible. Complete information is not available. Those additives known to be incompatible should not be used. Consult with pharmacist, if available. If, in the informed judgment of the veterinarian, it is deemed advisable to introduce additives, use aseptic technique. Mix thoroughly when additives have been introduced. Do not store solutions containing additives. Discard unused portion.

**Overdosage:** In an event of overhydration or solute overload, re-evaluate the patient and institute appropriate corrective measures.

See Warnings, Adverse Reactions and Precautions.

**How Supplied:** Veterinary Lactated Ringer's Injection, USP is supplied in plastic bags as follows:

NDC Code	Volume
17033-491-50	500 mL*
17033-491-01	1000 mL*

\* PVC Free, DEHP Free and Latex Free Bag.

\*\* The plastic container is fabricated from a specially formulated polyvinyl chloride. The amount of water that can permeate from inside the container into the overwrap is insufficient to affect the solution significantly. Solutions in contact with the plastic container can leach out certain of its chemical components in very small amounts within the expiration period, e.g., di-2-ethylhexyl phthalate (DEHP), up to 5 parts per million.

However, the safety of the plastic has been confirmed in animals according to USP biological tests for plastic containers, as well as tissue culture toxicity studies.

**STORAGE:** Exposure of pharmaceutical products to heat should be minimized. Avoid excessive heat.

It is recommended the product be stored in the moisture barrier overwrap at room temperature (25°C/77°F); brief exposure up to (40°C/104°F) does not adversely affect the product.

### Directions for use of plastic container To Open

Tear overwrap down side at slit and remove solution bag. Some opacity of the plastic due to moisture absorption during the sterilization process may be observed. This is normal and does not affect the solution quality or safety. The opacity will diminish gradually. Check for minute leaks by squeezing inner bag firmly. If leaks are found, discard solution as sterility may be impaired.

If supplemental medication is desired, follow directions below.

### Preparation for Administration

1. Suspend container from eyelet support.
2. Remove protector from outlet port at bottom of container.
3. Attach administration set. Refer to complete directions accompanying set.

### To Add Medication

**WARNING: Additives may be incompatible.**

### To add medication before solution administration

1. Prepare medication site.
2. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
3. Mix solution and medication thoroughly. For high density medication such as potassium chloride, squeeze ports while ports are upright and mix thoroughly.

### To add medication during solution administration

1. Close clamp on the administration set to stop the flow to the patient.
2. Prepare medication site.
3. Using syringe with 19 to 22 gauge needle, puncture resealable medication port and inject.
4. Remove container from IV pole and/or turn to an upright position.
5. Evacuate both ports by squeezing them while container is in the upright position.
6. Mix solution and medication thoroughly.
7. Return container to in-use position and continue administration.

**CAUTION: Federal law (U.S.A.) restricts this drug to use by or on the order of a licensed veterinarian.**

TAKE  
TIME



OBSERVE LABEL  
DIRECTIONS

### DISTRIBUTED BY:

Dechra Veterinary Products  
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Made in El Salvador.  
For a copy of the Safety Data Sheet (SDS)  
or to report adverse reactions call  
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