

GENERAL INFORMATION:

VETIVEX Hartmann's Solution For Infusion for Cattle, Horses, Dogs & Cats

What is VETIVEX Hartmann's Solution?

VETIVEX Hartmann's Solution for Infusion is a sterile, nonpyrogenic, isotonic crystalloid solution for fluid and electrolyte replenishment. VETIVEX Hartmann's has an electrolyte profile similar to Lactated Ringer's Solution. Lactated Ringer's Solution (LRS) is a modification of Hartmann's Solution and many references discuss their clinical use and clinical effects as if they are the same, including DiBartola's textbook on fluid therapy. Hartmann's Solution was developed in the late 1800s to deal with metabolic acidosis in pediatric humans. Alexis Hartmann, a US physician with pediatric interests from St. Louis, developed this balanced electrolyte solution by taking plain Ringer's Solution and adding lactate. Thus, Hartmann's and LRS are often referred to as being the same, since they are both balanced, isotonic electrolyte solutions that contain lactate and have an electrolyte profile similar to plasma.

How does VETIVEX Hartmann's compare to LRS?

VETIVEX Hartmann's has a slightly higher concentration of sodium, potassium, calcium, chloride and lactate. The osmolarity is very similar.

	Abbott Animal Health Lactated Ringer's (mEq/L)	Hospira Lactated Ringer's Injection USP (mEq/L)	Vetivex Hartmann's Solution (mEq/L)
Sodium	130	130	131
Potassium	4	4	5
Calcium	2.7	3	4
Chloride	109	109	111
Lactate	28	28	29
Osmolarity	273mOsmol/Liter	273 mOsmol/Liter	278 mOsmol/Liter

Why does VETIVEX Hartmann's contain lactate?

The addition of lactate helps address conditions of metabolic acidosis by mimicking the body's normal level of bicarbonate ion and providing the body with a readily available source of bicarbonate. Metabolism of lactate by the liver consumes hydrogen ions and generates bicarbonate, and thus has an alkalinizing effect.

Are the contraindications and precautions the same with VETIVEX Hartmann's as for LRS?

Yes, the same contraindications and precautions exist with VETIVEX Hartmann's as for LRS, due to their similar electrolyte profile and osmolarity.

What drugs or other fluids should not be administered through the same infusion set as VETIVEX Hartmann's?

Just like LRS, VETIVEX Hartmann's should not be run through the same infusion set as blood products. The calcium in both LRS and VETIVEX Hartmann's can cause clotting and the possible development of microthrombi.

Based on experience from human medicine, some drugs should not be mixed with Hartmann's Solution. These include drugs containing oxalate, phosphate or carbonate/bicarbonate. Veterinarians should only add drugs to VETIVEX Hartmann's if they are sure they are safe to mix. Incompatibility has been reported with novobiocin sodium, oxytetracycline hydrochloride, sodium bicarbonate, sodium calcium edetate, and sulphadiazine sodium when mixed with Hartmann's Solution.

VETIVEX Hartmann's Solution

What do the VETIVEX Hartmann's 5000mL Infusion bags look like?

The 5000mL VETIVEX Hartmann's bags have one port for an IV infusion set and one injection port. They are packaged two per case and have a removable overwrap on them.



What infusion rate and volume should be used when administering VETIVEX Hartmann's to a patient?

Practitioners should use the same infusion rate and volume for each individual patient as they would for LRS, based on the individual patient's hydration, cardiovascular state, and concurrent disease states. Patients should be closely monitored during IV infusion with any fluid and the patient's needs should be reassessed regularly.

Will VETIVEX Hartmann's be available in other sizes besides 5000mL?

At this time VETIVEX Hartmann's is only available in 5000mL bags. Dechra expects to introduce other sizes and types of sterile, intravenous fluids to the US market over time.

As with all products supplied by Dechra Veterinary Products, our Veterinary Technical Services Team can be reached at (866) 933-2472 for support or to report adverse events. For non-emergency situations, they can also be reached at support@dechra.com.

Please refer to the package insert for full prescribing information. **CAUTION: Federal law restricts this drug to use by or on the order of a licensed veterinarian.**

Vetivex

Hartmann's Solution for Injection

For Animal Use Only

Description:

Hartmann's Solution is a sterile, nonpyrogenic solution for fluid and electrolyte replenishment in single dose containers for parenteral administration. It contains no antimicrobial agents.

Each 100 mL of solution contains:

Sodium chloride	600 mg
Sodium lactate	317 mg
Potassium chloride	40 mg
Calcium chloride dihydrate	27 mg

Electrolyte concentrations	mmol/L	mEq/L
Sodium	131	131
Potassium	5	5
Calcium	2	4
Chloride	111	111
Lactate	29	29

Clinical Pharmacology:

Hartmann's Solution has value as a source of water and electrolytes. It is capable of inducing diuresis depending on the clinical condition of the patient.

Hartmann's Solution 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:

Hartmann's Solution is indicated as a source of water and electrolytes or as an alkalizing agent.

Warnings:

Do not administer to horses by intraperitoneal injection.

Hartmann's Solution 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.

Hartmann's Solution 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.

Hartmann's Solution 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.

Hartmann's Solution should not be administered simultaneously with blood through the same administration set because of the likelihood of coagulation.

The parenteral administration of Hartmann's Solution 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 Hartmann's Solution may result in sodium or potassium retention.

Hartmann's Solution 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.

Hartmann's Solution must be used with caution. Excess administration may result in metabolic alkalosis.

Do not administer unless solution is clear and seal is intact.

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.

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 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:

Hartmann's Solution is supplied as:

NDC Code	Volume
17033-482-01	1000 mL
17033-482-05	5000 mL

STORAGE: Exposure of pharmaceutical products to heat should be minimized. Avoid excessive heat. It is recommended the product be stored at room temperature (25°C); brief exposure up to 40°C does not adversely affect the product.

CAUTION: Federal law 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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Suite 525
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Made in Northern Ireland.

For a copy of the Material Safety Data Sheet (MSDS) or to report adverse reactions call Dechra Veterinary Products at (866) 933-2472.

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