





Furosemide Syrup 1%

 $(10 \, \text{mg/mL})$





- Approved by FDA under <u>ANADA # 200-373</u>
- Furosemide Syrup 1% is approved by the FDA as equivalent to the pioneer product Lasix® Syrup 1%.¹
- Furosemide Syrup 1% is supplied in 60 mL (2 fl oz) amber glass bottles with a calibrated safety dropper included.
- 10 mg/mL: 1 to 2 mL (10-20 mg) for each 10 lb body weight.
- See insert for full prescribing information (see back page).

A diuretic liquid for use in dogs. Active in the proximal and distal tubules and also the ascending limb of the loop of Henle.

Size Reorder No. Lbs/Case Case Pack
2 fl oz OM070 5 lbs. 12 x 1



¹ Lasix[®] is a registered trademark of Validus Pharmaceuticals LLC, Parsippany, NJ

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Syrup 1% (10 mg/mL) Furosemide

FOR USE IN DOGS ONLY

A diuretic-saluretic for prompt relief of edema.

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

is a chemically and saluretic pharmacodynamically **DESCRIPTION:** Furosemide Syrup 1% characterized by the following: diuretic

- 1) A high degree of efficacy, low-inherent toxicity and
 - 2) A rapid onset of action of comparatively short a high therapeutic index
- A pharmacologic action in the functional area of the nephron, i.e., proximal and distal tubules and the ascending limb of the loop Henle. 2,4 duration. 1,2 3
- A dose-response relationship and a ratio of minimum to maximum effective dose range greater than ten 4
 - It is administered orally. It is readily absorbed from This product contains alcohol 11.5% USP as a preservative, and FD&C Yellow #6 and D&C the intestinal tract and well tolerated. The CAS Registry Number is: 54-31-9. 2)

Furosemide Syrup 1%, a diuretic, is an anthranilic acid derivative with the following structural formula: #10 as color additives.

Generic name: Furosemide (except in United Kingdomfrusemide). Chemical name: 4-chloro-N-furfuryl-5sulfamoylanthranilic acid.

ACTIONS

not only in the proximal and distal tubule, but also in the ascending limb of the loop of Henle. The prompt onset of action is a result of the drug's rapid absorption and a poor lipid solubility. The low lipid solubility and a rapid renal excretion minimizes the possibility of lipid accumulation in tissues and organs, or of crystalluria. Furosemide Syrup 1% has no inhibitory effect on carbonic anny describing anny describing anny describing anny describing and drug possesses diuretic activity in the presence of either acidosis or alkalosis. 17 The therapeutic efficacy of Furosemide Syrup 1% is from the activity of the intact and unaltered molecule throughout the nephron, inhibiting the reabsorption of sodium

NDICATIONS

a wide therapeutic range. Pharmacologically it promotes the rapid removal of abnormally retained extracellular fluids. The rationale for the efficacious use of diuretic therapy is determined by the clinical pathology producing Furosemide Syrup 1% is an effective diuretic possessing the edema.

edema (pulmonary congestion, ascites) associated with cardiac insufficiency and acute noninflammatory tissue edema. The continued use of heart stimulants, such as Furosemide Syrup 1% is indicated for the treatment of digitalis or its glycosides, is indicated in cases of edema involving cardiac insufficiency.

Furosemide Syrup 1% is a highly effective diuretic-saluretic which if given in excessive amounts may result in dehydration and electrolyte imbalance. Therefore, the signs of electrolyte imbalance, and corrective measures administered. Early signs of electrolyte imbalance are: Increased thirst, lethargy, drowsiness or restlessness, fatigue, oliguria, gastrointestinal disturbances and tachycardia. Special attention should be given to patients' needs. The animal should be observed for early dosage and schedule may have to be adjusted to the potassium levels. Furosemide may lower serum calcium levels and cause tetany in rare cases of animals having an existing hypocalcemic tendency. ¹⁰⁻¹⁴ Although diabetes mellitus is a rarely reported disease in animals, active or latent diabetes mellitus may on rare doses of salicylates, as in rheumatic diseases, in conjunction with Furosemide Syrup 1% may result in salicylate toxicity because of competition for renal excretory sites. Electrolyte balance should be monitored Imbalances must be corrected by administration of suitable fluid therapy. While it has not been reported in animals, the use of high doses of salicylates, as in rheumatic diseases, in prior to surgery in patients receiving Furosemide Syrup 1%. occasions be exacerbated by Furosemide Syrup 1%.

precipitate hepatic coma; therefore, observation during period of therapy is necessary. In hepatic coma and in states of electrolyte depletion, therapy should not be instituted until the basic condition is improved or corrected. Potassium supplementation may be Furosemide Syrup 1% is contraindicated in anuria. Therapy should be discontinued in cases of progressive renal disease if increasing azotemia and oliguria occur during the treatment. Sudden alterations of fluid and electrolyte imbalance in an animal with cirrhosis may necessary in cases routinely treated with potassium depleting steroids.

Yellow

WARNINGS

Excessive loss of potassium in patients receiving digitalis or its glycosides may precipitate digitalis toxicity. Caution should be exercised in animals administered Furosemide Syrup 1% is a highly effective diuretic and, as with any diuretic, if given in excessive amounts may lead to excessive diuresis that could result in electrolyte and embolism. Therefore, the animal should be observed for early signs of fluid depletion with electrolyte imbalance, dehydration and reduction of plasma volume, enhancing the risk of circulatory collapse, thrombosis, and embolism. Therefore, the animal should be administered. corrective measures potassium-depleting steroids. and mbalance,

It is important to correct potassium deficiency with dietary supplementation. Caution should be exercised in prescribing enteric-coated potassium tablets.

DOG-Syrup 1%

There have been several reports in human literature, published and unpublished, concerning nonspecific concerning nonspecific small-bowel lesions consisting of stenosis, with or without ulceration, associated with the administration of enteric-coated thiazides with potassium salts. These esions may occur with enteric-coated potassium tablets alone or when they are used with non-enteric-coated thiazides, or certain other oral diuretics. These smallrhage, and perforation. Surgery was frequently required, and deaths have occurred. Available information tends sulfonamide sensitivity may show allergic reactions to Furosemide Syrup 1%; however, these reactions bowel lesions may have caused obstruction, hemoralthough lesions of this type also occur spontaneously distension, nausea, vomiting, or gastrointesti-bleeding occurs. Human patients with known should be administered only when indicated, and to implicate enteric-coated potassium salts, should be discontinued immediately have not been reported in animals. Therefore, coated لع

arterial responsiveness to pressor amines and to enhance the effect of tubocurarine. Caution should be exercised in administering curarie or its derivatives to patients undergoing therapy with Furosemide Syrup 1% and it is advisable to discontinue Furosemide Syrup 1%. Sulfonamide diuretics have been reported to decrease

*NOTE: The lower oral LD₅₀ value for the rat was obtained in a group of fasted animals; the higher figure is from a study performed on fed rats.

Toxic doses lead to convulsions, ataxia, paralysis and collapse. Animals surviving toxic doses may become dehydrated and depleted of electrolytes due to the

for one day prior to any elective surgery. Keep Purosemide Syrup 1% in a secure location out of the reach of dogs, cats, and other animals to prevent accidental ingestion or overdose.

CONTACT INFORMATION:

To report suspected adverse events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact First Priority, Inc. at (800) 650-4899 or www.priority-care.com. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or http://www.fda.gov/reportanimalae

The usual dose of Furosemide Syrup 1% is 1 to 2 mg/lb body weight (approximately 2.5 to 5 mg/kg). Administer once or twice daily at 6- to 8-hour intervals orally. A prompt diuresis usually ensues from the initial treatment. Diuresis may be initiated by the parenteral administration of furosemide injection and then maintained by oral

DOSAGE AND ADMINISTRATION

Chronic Toxicity:

massive diuresis and saluresis.

in dogs renal Chronic toxicity studies with furosemide were done in a one-year study in rats and odgs. In a one-year study in rats, renal tubular degeneration occurred with all doses higher than 50 mg/kg. A six-month study in dogs revealed calcification and scarring of parenchyma at all doses above 10 mg/kg.

3.6 gms/kg/day throughout gestation suggests that alcohol may reduce the number of offspring per litter, the birth weight per pand increase the incidence of stillbirths. There have been no studies conducted in pregnant dogs administered alcohol at levels found in maternal deaths and abortions occur. Furosemide Syrup 1% should be used during preganory only if the potential 1976 the present of the present of the fetus. The effects of alcohol administered to pregnant Beagles at 3 and at dose of 2 mg/kg for dogs, horses and cattle) of furosemide during the second trimester did unexplained rabbits. Only in rabbits administered high doses (equivalent to 10 to 25 times the recommended average Reproductive studies were conducted in mice, Reproductive Studies: Furosemide Syrup 1%.

REFERENCES

dose may be doubled or increased by increments of 1 mg/lb body weight. The established effective dose should be administered once or twice daily. The daily schedule of administration can be timed to control the period of micturition of the convenience of the client or veterinarian. Mobilization of the edema may be most

The dosage should be adjusted to the individual's response. In severe edematous or refractory cases, the

administration.

limmerman RJ, Springman FR, Thomas RK

Evaluation of furosemide, a new diuretic agent. *Curr Ther Res* 6:88–94, 1964.
Muschaweck R, Hajdu P: The saluretic action of 4-Chloro-N-(2 furylmethyl)-5-sulfamyl-arthramilic acid. (Die salidiuretische Wirksamkeit der Chlor-N-(2furylmethyl)-5-sulfamyl-anthranilsaure.) Arzneim Forsch

or 2 to 4 consecutive days weekly.

Diuretic therapy should be discontinued after reduction of the edema, or maintained after determining a carefully

efficiently and safely accomplished by utilizing an intermittent daily dosage schedule, i.e., every other day

be lowered after the edema has once been reduced. Re-examination and consultations with client will enhance the establishment of a satisfactorily

programmed dosage schedule. Clinical examination and serum BUN, CO² and electrolyte determinations should

programmed dosage schedule to prevent recurrence of edema. For long-term treatment, the dose can generally

be performed during the early period of therapy and periodically thereafter, especially in refractory cases. Abnormalities should be corrected or the drug temporarily

withdrawn.

DOSAGE

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Invariantly Continuing and Invariant elimination, and metabolism. Internal report, Research Laboratories, Frankfurt, West Germany, 7

Farbwerke Hoechst.

8. Wilson AF, Simmons DH. Diuretic action in hypocolloremic dogs. Clin Res 14:158, 1966.

9. Hook JB. Williamson HE: Influence of probenecid and alterations and acid-base balance of the saluretic activity of furosemide. J Pharmacol Exp The 148:404-408, 1965.

10. Antoniou LD. et al. Sodium and calcium transport in the kidney. Clin Res 15:476, 1967.

11. Duarte CG. Effects of furosemide (F) and ethacrynic acid (ETA) on the renal clearance of phosphate (Cpl. ultra-filterable calcium (CUF-Ca) and magnesium (CUMM). Clin Res 15:357, 1967. One (1) to two (2) mL (10 to 20 mg furosemide) per 10 lb body weight (approximately 2.5 to 5 mg/kg).
Administered once or twice daily, permitting a 6- to 8-hour interval between treatments. In refractory or severe edematous cases, the dosage may be doubled or increased by increments of 1 mg/lb body weight as recommended in preceding paragraphs, "DOSAGE AND ADMINISTRATION."

Furosemide Syrup 1% (10 mg/mL), available in 60 mL

HOW SUPPLIED

bottles with calibrated safety dropper.

FOXICOLOGY

on urnary calcium, phosphaty and against Metabolism 1.78(78) 1868.

13. Nielsen SP, Andersen O, Steven KE. Magnesium and calcium, metabolism during prolonged furosemide (Lasix) administration to normal rats. *Acta Pharmacol Toxicol* 27.468-479, 1969.

14. Reimold EW. The effect of furosemide on hypercalcemia due to dihydrotachysterol. *Metabolism* 21:593-598, 1972.

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Acute Toxicity:
The following table illustrates low acu Furosemide in three different species.

indicated two different studies).

(Two acnte

INTRAVENOUS

SPECIES

LD₅₀ of Furosemide in mg/kg body weight

TAKE TIME (OBSERVE LABEL DIRECTIONS

Manufactured by: First Priority, Inc. Elgin, IL 60123

Mouse Rat Dog

>300 and >464 680

>1000 and >4640 **ORAL** 1050-1500 2650-4600*

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