Complete dietetic dry pet food for adult dogs for the dissolution of struvite stones with urine acidifying properties and low levels of magnesium.

RECOMMENDED FOR & NOT RECOMMENDED FOR

- ✓ Dissolution of sterile struvite stones
- ✓ Dissolution of bacterial-associated struvite stones in combination with appropriate antibiotics
- ✓ Prevention of recurrence of struvite uroliths
- ✓ Management of calcium phosphate uroliths (formation and recurrence)
- ✗ Simultaneous use of urine acidifiers
- ✗ Not suitable during pregnancy, lactation and growth

3 kg and 12 kg

KEY BENEFITS

Controlled pH
Promotes an acidic urine to help reduce urinary struvite stone formation and promote dissolution

Moderate protein
to help minimise substrate availability for urease-producing bacteria

Great taste
Highly palatable for long term feeding

ADDITIONAL BENEFITS & CHARACTERISTICS

Nutritional management of struvite uroliths
Controlled pH: formulated to promote an acidic urine (target pH: 6.0)
Moderate protein: minimise substrate availability for urease-producing bacteria

Proven to achieve complete dissolution of struvite uroliths in conjunction with appropriate antimicrobials in as little as 3 weeks when fed exclusively*

Supports the integrity of the urinary tract mucosa
Sources of glycoaminoglycans (GAGs), omega-3 fatty acids and antioxidants

Nutritional management of calcium phosphate uroliths
Reduced calcium diet

* Dear JD, *et al.* (2019) Evaluation of a dry therapeutic urinary diet and concurrent administration of antimicrobials for struvite cystolith dissolution in dogs. *BMC Vet Res.* Aug 1; **15(1)**:273.

COMPOSITION

Corn, wheat flour, dried poultry protein, rice, pork fat, corn protein meal, digest, dried beet pulp, dried egg, minerals, fish oil.

Urine acidifying substances: calcium sulphate, phosphoric acid.

KEY NUTRIENT VALUES*	
Moisture	7.5%
Protein	22.0%
Fat	15.0%
Carbohydrate	49.1%
Crude fibre	1.5%
Crude ash	4.9%
Calcium	0.70%
Phosphorus	0.70%
Sodium	0.20%
Potassium	0.70%
Magnesium	0.08%
Chloride	0.70%
Sulphur	0.3%
Vitamin E	305 IU/kg
Metabolisable energy (ME)[1]	398 kcal/100g

* Typical analysis in the final product as fed.
[1] Calculated following NRC 2006 equations.

FEEDING GUIDELINES

Increased water consumption can help dilute the urine and further decrease the risk of crystal formation. For dissolution of struvite stones, an initial feeding period of 5-12 weeks is recommended. The diet should be continued for at least 4 weeks past complete dissolution of the stone(s) based on radiographs and/or ultrasound. For long-term use, an initial feeding period of up to 6 months is recommended, but the dog should be re-evaluated regularly as indicated by the underlying condition.

DAILY FEEDING QUANTITY	
Body weight (kg)	Daily feeding quantity (g/day)
2.5	65
5	105
10	165
15	215
25	300
35	380
45	445
70	600

The most common canine uroliths are composed of magnesium ammonium phosphate (struvite) or calcium oxalate[1,2]. The relative proportion of these two types of urolith have varied between different countries and over time but they account for more than 80% of all canine uroliths with the majority being struvite uroliths[3].

The aetiopathogenesis of urolithiasis remains incompletely understood – for uroliths to form and grow, the urine must be supersaturated with the relevant crystalloid materials. However, the fact that urine is commonly supersaturated in animals that never form uroliths illustrates that other factors are also important.

More than 70% of dogs with struvite uroliths have an associated urease-producing bacterial urinary tract infection (UTI)[3]. Eradication of the UTI is essential for effective urolith dissolution and optimal longer term control.

VARIOUS FACTORS AFFECT THE RISK OF UROLITHIASIS

CLINICAL ADVANTAGES WITH THE USE OF CANINE UR URINARY™

Where a UTI is present, dietary therapy should always be combined with appropriate antibiotic therapy. The Canine UR Urinary diet is specifically formulated to provide:

Urine with a target pH of 6.0 – this will help prevent the formation of new struvite crystals and uroliths, and help dissolve existing uroliths and crystals.

Undersaturation of phosphate and magnesium – by carefully controlling the content of the diet, Canine UR is designed to also undersaturate the urine for these two constituents of struvite crystals and uroliths.

Undersaturation of ammonium – by using a low quantity of high quality protein, there is reduced production of urea, the substrate for bacterial NH_3 production in the urine.

1. Houston DM, *et al.* (2004) Canine urolithiasis: a look at over 16 000 urolith submissions to the Canadian Veterinary Urolith Centre from February 1998 to April 2003. *Can Vet J.* **45**: 225-30.
2. Kopecny L, *et al.* (2021) Urolithiasis in dogs: Evaluation of trends in urolith composition and risk factors (2006-2018). *J Vet Intern Med.* May; **35(3)**: 1406-1415.
3. Osborne CA, *et al.* (2008) Analysis of 451,891 canine uroliths, feline uroliths, and feline urethral plugs from 1981 to 2007: perspectives from the Minnesota urolith center. *Vet Clin Small Anim.* **39**: 183-97.

Other relevant literature
- Koehler LA, *et al.* (2008) Canine uroliths: frequently asked questions and their answers. *Vet Clin Small Anim.* **39**: 161-81.
- Osborne CA, *et al.* (1995) Canine and feline urolithiasis: relationship of etiopathogenesis to treatment and prevention. In: Canine and Feline Nephrology and Urology, eds Osborne CA, Finco DR. *Philadelphia: Lea and Febiger.* 798-888.
- Bartges JW, *et al.* (1995) Influence of four diets containing approximately 11% protein (dry weight) on uric acid, sodium urate and ammonium urate activity product ratios of healthy beagles. *Am J Vet res.* **56**: 60-5.
- Calabrò S, *et al.* (2011) Management of struvite uroliths in dogs. *Br J Nutr.* Oct;106 Suppl 1:S191-3.