



Protege lo ganado

COMPLEJO B EXTRA

REGISTRATION NUMBER Q- 7972-049

Vitamin complement.

FORMULATION:

Vitamin B1 (thiamine)..... 100 mg.
Vitamin B2 (riboflavin)..... 0.40 mg.
Vitamin B6 (pyridoxine)..... 1.3 mg.
Vitamin B12 (cyanocobalamin)..... 25 mcg.
Nicotinamide..... 170 mg.
Vehicle q.s. 1 mL

DOSAGE SIZE AND FORM: 100 and 250 mL.

VETERINARY USE

SOLUTION FOR INJECTION

COMPLEJO B

VITAMIN

INDICATIONS:

COMPLEJO B EXTRA is indicated in the treatment of diseases where there are B complex vitamins' deficiencies such as: anorexia, nervous disorders, growth retardation, pre and postoperative exhaustion, pregnant females, females that just gave birth or lactating animals, also contributes to the stimulation of appetite.

COMPLEJO B EXTRA is an injectable product made with B complex vitamins (B1, B2, B6, B12 and Nicotinamide) indicated for the prevention and treatment of conditions such as: anorexia, nervous disorders, neuritis, growth retardation, exhaustion, pre and postoperative decreased appetite, dystocia, ketosis, and anemias.

Vitamins are organic compounds that are required to perform certain metabolic processes. The B complex vitamins are water-soluble and chemically they are very similar between them, and ruminant animals usually synthesize them when they have an adequate diet and ruminal functioning, however, in cases of nutritional deficiencies in the diet or some pathological process impacting ruminal activity (acidosis, parasitosis, tympanic sounds, diarrhea), or in monogastric animals it is necessary to administer them.

Vitamin B1 is essential for the proper functioning of muscular and nervous systems. It is involved in carbohydrate metabolism and lipid synthesis as well as in the transport of carbohydrates and acetylcholine (neuronal indicator) synthesis. It takes part in the absorption of glucose in the nervous





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system and in lipid synthesis by the formation of acetyl CoA. Vitamin B1 is absorbed in the small intestine, losing about 20% in feces, since its absorption is carried out by an active and passive process. Its degradation occurs in the tissues where pyrimidine is produced, the ingested excess of this vitamin is in the form of thiamine or pyrimidine in the urine.

Vitamin B2 is involved in intracellular energy metabolism and stimulates antioxidant activity of Vitamin E. It intervenes in cellular respiration and fatty acids synthesis. It acts as flavin mononucleotide and dinucleotide, coenzymes necessary for tissue respiration and to maintain erythrocytes integrity. Together with niacin and pyridoxine it maintains the immune system. Vitamin B2 is easily absorbed from the gastrointestinal tract. It is distributed throughout all tissues and binds to proteins, so it is poorly stored. It is metabolized in the liver and eliminated via the kidneys.

Vitamin B6 is vital for the transport and metabolism of amino acids. It is involved in the synthesis of primary amines (histamine, serotonin) and gamma amino butyric acid. It is essential for neuronal metabolism. It acts as a coenzyme in protein and nitrogen metabolism (Transamination, Decarboxylation and Transsulfuration). It is involved in niacin synthesis and cobalamin absorption and incorporation of Fe in hemoglobin synthesis. Vitamin B6 is absorbed from the gastrointestinal tract; normal concentrations are 30-80 mg/mL, and it is bound to proteins. In erythrocytes, pyridoxine is transformed to pyridoxal phosphate and pyridoxamine phosphate, in the liver pyridoxine is phosphorylated to pyridoxal phosphate, a process in which the presence of riboflavin is required, and pyridoxal is oxidized to pyridoxic acid, which is excreted in the urine. Vitamin B6 half-life is 15 to 20 days, it is stored mainly in the liver and to a lesser extent in muscles and brain.

Vitamin B12 or cyanocobalamin acts as a coenzyme of several metabolic functions, intervenes in the formation of methylmalonyl CoA to succinyl CoA, in propionic acid metabolism. It is important in growth, hematopoiesis, and protein metabolism, acts as a prosthetic group of enzyme-B12, intervenes in methionine metabolism. In addition, it is involved in fats and carbohydrates metabolism and protein synthesis. It is necessary for growth, cell replication, hematopoiesis and nucleoproteins and myelin synthesis, in addition to its effects on methionine and folic acid. **Vitamin B12** is absorbed from the gastrointestinal tract in the ileum lower middle part, the required daily dose is released from the proteins to which it is bound by means of gastric acid and pancreatic proteases. Before being bound to intrinsic factor (IF), it passes to the intestine lower part where it binds to other receptors of the ileum mucosa from where it can be absorbed into the systemic stream, for which calcium and a pH higher than 5.4 are required. The enterohepatic circulation preserves the vitamin, reabsorbing it from bile; 90% is stored in the liver and some at the renal level, its biotransformation occurs at hepatic level. Its half-life is about six days in the liver, and it is eliminated via biliary route; the daily requirement excess is eliminated in the urine.

Nicotinamide is transformed to physiologically active diphosphopyridine nucleotide (DPN or NAD) and triphosphopyridine nucleotide (NADP) as enzymes of various dehydrogenases, these nucleotides are functional groups for the active agents of electron transfer in cellular respiration, glycolysis, and lipid



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synthesis. The metabolism is not fully known. It is distributed to all tissues and metabolized in the liver to N-methylnicotinamide and nicotinamide-N-oxide. The first is then methylated into two compounds known as 2PY and 4PY that are eliminated in the urine.

SPECIES:

Cattle, equines, swine, canines, and felines.

DOSE:

Cattle: 10 mL per 100 kg of body weight.

Equines: 2.5 mL per 100 kg of body weight.

Swine: 1 mL.

Canines and felines: 0.5 to 1 mL.

The duration of treatment depends on severity of clinical signs or at the discretion of the Veterinarian.

ROUTE OF ADMINISTRATION:

Intramuscular or Intravenous with a very slow administration.

ADVERTENCIAS AND/OR RESTRICTIONS:

Discontinue immediately in case of adverse reactions. Muscle pain may occur. Keep in a dry, cool place, at a range of 15-30°C and protected against direct sunlight. Keep out of reach of children and pets. Product for exclusive use in Veterinary Medicine.

WITHDRAWAL PERIOD:

There is no withdrawal period.

Consult a Doctor of Veterinary Medicine

Exclusive information for Doctors of Veterinary Medicine.

Responsible for content: Technical Department.