

## MULTIVIT - MINERAL inj. ad us. vet.

### COMPOSITION – 1 ml:

|                         |           |
|-------------------------|-----------|
| Vitamin A               | 50,000 IU |
| Vitamin D <sub>3</sub>  | 25,000 IU |
| Vitamin E               | 4 mg      |
| Vitamin B <sub>1</sub>  | 10 mg     |
| Vitamin B <sub>2</sub>  | 0.04 mg   |
| Vitamin B <sub>6</sub>  | 2 mg      |
| Vitamin B <sub>12</sub> | 0.01 mg   |
| D-panthenol             | 2 mg      |
| Nicotin acid            | 5 mg      |
| Inositol                | 2 mg      |
| Methionin               | 5 mg      |
| Choline citrate         | 5 mg      |
| Magnesium phosphinate   | 1 mg      |
| Cobalt chloride         | 0.02 mg   |
| Copper sulphate         | 0.1 mg    |
| Zinc sulphate           | 0.1 mg    |

Adjuvants: kalium sorbate, citric acid, glycerolum, emulgator, aqua pro iniectone.

**DOSAGE FORM:** solution for injection.

**PHARMACOTHERAPEUTIC GROUP:** vitamin, mineral and amino acid preparation

### WAY OF EFFECT:

Vitamin A is converted in retinol and is responsible for stability of cell membranes.

Vitamin D<sub>3</sub> plays the main role in regulation of plasma concentrations of calcium and phosphorus.

Vitamin E works as antioxidant and partly controls free radicals for unsaturated fatty acids in phospholipides of cell membranes.

Vitamin B<sub>1</sub> works as coenzyme at transformation of glucose and glycogen.

Vitamin B<sub>2</sub> is phosphorylated in the form of coenzym riboflavin-5-phosphate and flavin adenin dinucleotide (FAD) that work as hydrogen-recipients and hydrogen-donators.

Vitamin B<sub>6</sub> is converted in pyridoxal phosphate that works as coenzyme together with transaminases and decarboxylases in the metabolism of proteins and amino acids.

Nicotinamid is converted in essential coenzymes nicotinamid adenin dinucleotide (NAD) and nicotinamid adenin dinucleotide phosphate (NADP).

Panthenol or panthotenic acids are converted in coenzyme that plays a key role in the metabolism of carbohydrates and amino acids in the synthesis of fatty acids, steroids and acetyl coenzyme A.

Vitamin B<sub>12</sub> is important for the synthesis of nucleic acid components, red blood cell production, and metabolism of propionate.

Inositol in the form of phospholipid participates in the transport of cations through the cell membrane, influences nerve stimulation, and intervenes in the metabolism of mitochondrions.

Methionin is converted in adenosyl methionin that serves as a carrier for the methyl group. This is an important building block of animal proteins.

Choline is vital for normal growth.

It is a part of phospholipids and acetylcholine. It participates in the transport of fatty acids from the liver to peripheral fat tissues.

Magnesium intervenes in transphosphorylation, oxidative phosphorylation, synthesis of nucleic acids, synthesis of proteins, muscle contraction, transmission of nerve excitation, and in active transfer of ions.

Cobalt increases the number of erythrocytes, and it activates dipeptidase that splits glycyl glycyl.

Copper is an important factor in haematopoiesis, in the development of bones, and keeping myelin in the nerve centre.

Zinc is a part of metallic enzymes and increases the activity of enzymes. It stabilizes molecules of insulin.

### CHARACTERISTICS:

gold-brown clear solution for injection.

**INDICATION:** MULTIVIT - MINERAL inj. ad us. vet. should be used for treatment and prophylaxis of vitamin and mineral deficiency in horses, sheep, pigs, goats, hens, chickens, turkeys, young turkeys, ducks, young ducks, geese, young geese, pigeons and exotic birds in illness and recovery.

**CONTRAINDICATIONS:** Contraindicated at hypervitaminosis of vitamins A, D<sub>3</sub>, E

**INTERACTIONS:** Retinol may suppress the anti-inflammatory effect of glucocorticoids. Barbiturates shorten the biological half-life of cholecalciferol. Tocoferol works synergically with selenium.

**APPLICATION:** The preparation should be used for intramuscular, subcutaneous and per oral application.

**DOSAGE:** The recommended dose for **intramuscular or subcutaneous** application:

Cattle and horses:

2 – 6 ml / 100 kg live weight

Sheep, pigs, goats:

1.5 – 2.5 ml / 50 kg live weight

Piglet, lamb, kid:

1 – 1.5 ml / 10 kg live weight

Dog: 0.5 – 5 ml / 10 kg live weight

The upper tolerance of the dose is maximum for one animal. The dose can be repeated in 10 – 14 days.

The recommended dose to be applied **per oral** is as follows:

Birds

| Animal species – 10 animals | Quantity of the preparation in ml/day |
|-----------------------------|---------------------------------------|
| Chickens                    | 1                                     |
| Chickens ofturkeys          | 2                                     |
| Ducklings                   | 3                                     |
| Goslings                    | 3                                     |
| Turkeys                     | 5                                     |
| Ducks                       | 4                                     |
| Hens                        | 2                                     |
| Pigeons                     | 1,5                                   |
| Geese                       | 6                                     |

Six drops contained in 1 l feeding water should be given to exotic birds for preventive reasons.

To cure them, 12 – 16 drops in 1 l feeding water are recommended.

The preparation should be administered for 2 – 3 days in a sufficient quantity of feeding water so that the individual animal is able to absorb it as fast as possible. The doses cover their need of vitamin A for 2 months.

### Mammals

| Animal species                          | Quantity of the preparation |
|-----------------------------------------|-----------------------------|
| Calves, foals (50 kg live weight)       | 1 ml / 8 animals / per day  |
| Piglets, lambs, kids (5 kg live weight) | 1 ml / 40 animals / per day |
| Pigs (100 kg live weight)               | 1 ml / 4 animals / per day  |
| Horses, cattle (500 kg live weight)     | 2 ml / 1 animal / per day   |

For preventive reasons the diluted solution is administered for 5 – 10 days.

Protect the diluted solution from direct sunlight and prepare a fresh solution every day.

**TARGET SPECIES:** Cattle, horses, sheep, pigs, goats, dogs, piglets, kids, lambs, hens, chickens, turkeys, young turkeys, ducks, ducklings, geese, goslings, pigeons and exotic birds.

**ADVERSE EFFECTS:** None.

**WITHDRAWAL PERIODS:** None.

**PACKAGE:** 50 ml, 100 ml, 250 ml and 500 ml vials.

**STORAGE:** To be stored at the temperature of 8 – 15 °C in a dark and dry place.

Should be used within **28 days** after first opening.

**SHELF LIFE** after the dilution for oral administration.: **12 hours.**

**SPECIAL PRECAUTIONS for disposal of unused preparation:** Before use heat the content of the vial to 20 °C. Keep out of the reach and sight of children.

### REGISTRATION HOLDER:

Bioveta, a. s., Ivanovice na Hané  
Preparation should not be used after expiry date shown on the package.

**DATE OF THE LAST REVISION:** 28.06.2002



Dimensions (mm): 2 × A6  
Colours: black  
Prepared by: Vlková  
Date: 20. 4. 2012

Approved by: .....

Date: .....