

# INSTRUCTIONS for Use of the Veterinary Drug Multilet

## 1. General Information

1.1 The veterinary drug Multilet.

International nonproprietary names of the active pharmaceutical substances: penicillin, dihydrostreptomycin, neomycin, prednisolone.

Pharmaceutical form: suspension for intramammary administration.

1.2 The veterinary medicinal product Multilet is a suspension ranging in color from white to cream. Stratification is allowed during storage.

1.3 One dosing syringe (10 ml) contains the following active substances: 100 mg neomycin sulfate, 100 mg dihydrostreptomycin sulfate, 100 mg penicillin G procaine, 10 mg prednisolone, and excipients: aluminum stearate, vegetable oil.

1.4 The product is packaged in single-use plastic dosing syringes of 10 ml, packed in cardboard boxes of 24 or 120 pieces, along with the instructions for use.

1.5 The product is stored and transported in the manufacturer's packaging in a place protected from direct sunlight at a temperature of 2°C to 25°C. Keep out of reach of children.

1.6 Shelf life of the product under storage conditions is 2 years from the date of manufacture. The product must not be used after the expiration date. Disposal of the product should be in accordance with legal requirements.

1.7 Dispensing conditions: without a veterinary prescription.

## 2. Pharmacological Properties

2.1 The product belongs to the pharmacological group of drugs: aminoglycosides in combination and provides a broad spectrum of activity against gram-positive and gram-negative microorganisms, including *Staphylococcus aureus*, *Streptococcus agalactiae*, *Streptococcus dysagalactiae*, *Streptococcus uberis*, and *Escherichia coli*.

2.2 The product contains a combination of penicillin G procaine, a long-acting form of penicillin, and streptomycin, providing a synergistic effect. The bactericidal action of penicillin G procaine lies in the disruption of bacterial membrane structure by inhibiting the formation of glycoproteins in bacterial membranes through irreversible binding to the transaminase enzyme during the replication stage of microorganisms.

The antimicrobial activity of streptomycin sulfate is associated with suppression of protein synthesis at the ribosomal level in the microbial cell, resulting in defects in the reading of mRNA. Polyribosomes disintegrate and lose their ability to synthesize protein, cytoplasmic membranes are damaged, and the microbial cell dies.

Neomycin is an aminoglycoside antibiotic whose antibacterial mechanism consists of disrupting protein synthesis by suppressing the formation of the tRNA-mRNA complex.

Prednisolone is a synthetic glucocorticosteroid. It has anti-inflammatory, antiallergic, immunosuppressive, and antishock effects, and increases the sensitivity of  $\beta$ -adrenoreceptors to endogenous catecholamines.

2.3 The absorption of streptomycin is limited with intramammary administration. Neomycin is not absorbed into tissues at the site of application, which ensures a prolonged local antibacterial effect against pathogens. The product exhibits bactericidal action depending on the concentration at the application site. Degradation products resulting from the inflammatory process do not reduce the effectiveness of the product. The product is excreted in milk and urine.

2.4 At recommended doses, the product has no toxic effect on animals. The product is classified as low hazard (hazard class IV according to GOST 12.1.007-76).

### **3. Directions for Use**

3.1 The product is used for the treatment of all forms of mastitis (except purulent-necrotic) in lactating cows.

3.2 Before administration, the secretion must be completely milked out of the affected udder quarter, and the teat should be treated externally with an antiseptic solution. After that, the dosing syringe cannula should be carefully inserted into the teat canal and the contents gently and slowly expressed. Then the cannula should be withdrawn, the teat tip clamped with fingers, and the teat gently massaged from bottom to top for 1–2 minutes to ensure better distribution of the product. After use, the teat should be treated again with an antiseptic. Before use, the dosing syringe should be warmed in a water bath to 37°C and shaken vigorously.

If necessary, the administration of the product may be repeated after 24 hours.

After administration of the product, milking of the animal is prohibited for at least 6 hours.

3.3 No side effects have been identified when the product is used according to the instructions.

3.4 Slaughter of animals for meat is permitted no earlier than 21 days after the last administration of the product. Meat from animals slaughtered before this period may be used for feeding carnivorous animals. Milk is not permitted for human consumption during treatment and until 5 days after the last administration of the product. Before this period, milk may be used for feeding non-productive animals after heat treatment.

### **4. Precautionary Measures**

4.1 When working with the product, personal hygiene and safety rules should be followed.

### **5. Claims Procedure**

5.1 In the event of complications after using the product, its use must be discontinued, and the consumer should contact the state veterinary institution in their area. Veterinary specialists of the institution will review compliance with all rules for using the product in accordance with the instructions. Upon confirmation of adverse effects of the product on the animal, veterinary specialists will collect the necessary number of samples for laboratory testing and send them to the state institution "Belarusian State Veterinary Center" for verification of compliance with regulatory documents at the address: Republic of Belarus, 220005, Minsk, Krasnaya St. 19A, tel. 8 017 290-42-75.

### **6. Manufacturer Information**

6.1 Production Cooperative "Biogel".

Legal address: Republic of Belarus, 220035, Minsk, Timiryazeva St., 65, office 313.

Production site address: Republic of Belarus, Minsk region, 222685, Stolbtsy district, village Nivnoe.

Manufactured by order of the Private Enterprise "Letual", 220075, Minsk, Inzhenernaya St., 1E.

The instructions for use of the product were developed by employees of PC "Biogel" (L.E. Yanushevskaya) and the Private Enterprise "Letual" (A.N. Bezborodkin).