# BDEX LIQUID
## INJECTION

For Veterinary Use Only

**COMPOSITION:**
Each ml contains
Benzyl Penicillin Procaine…....125,000 IU
Benzathine Penicillin G…....……125,000 IU
Dihydrostreptomycin Sulphate……..0.25g
Dexamethasone Sodium Phosphate…....0.20mg
Dexamethasone -21-Isonicotinate.....…... 0.20mg

**INDICATIONS:**
BDEX Injection is indicated for treatment of inflammatory conditions, tonsillitis, trachealis, bronchitis, bronchopulmonary disease, pleuritic, enteritis, peritonitis, foreign body infections, septicemia, toxemia, leptospirosis, staphylococcal infections, gangrenous mastitis, metritis, metro peritonitis, infections of the urinary tract, foot infections, polyarthritis, polysynovitis, abscesses, traumatic and operative wounds, actinogranulomatosis, dermatitis, pyoderma and secondary bacterial infections associated with viral forms in cattle, buffalo, horse sheep and goats.

**PHARMACODYNAMICS:**
BDEX injection is the combination of Penicillin G, Benzathine benzyl penicillin dihydrostreptomycin, and Dexamethasone the combination of both antibiotics and steroid possesses a broad spectrum, which can be of particular importance in the treatment of mixed infections and inflammation. **Benzyl penicillin or penicillin G** is a beta-lactam antibiotic and is mainly active against Gram-positive bacteria, anaerobes, spirochetes and some Gram-negative bacteria. It is a rapid bactericidal acting antibiotic. Penicillin G exerts a bactericidal action against penicillin-susceptible microorganisms during the stage of active multiplication. It acts through the inhibition of biosynthesis of cell-wall peptidoglycan, rendering the cell wall osmotically unstable.
Species usually sensitive:
*Streptococcus spp., Diplococcus spp.,staphylococci, Corynebacterium spp.,Actinomyces pyogenes, Erysipelothrix rhusiopathiae, Listeria monocytogenes, Bacillus anthracis, Clostridium spp., Neisseria spp., Haemophilus spp., Leptospiren spp., Brachycephala hyodysenteriae, Fusobacterium spp., Bacteroides spp., some Pasturella-strains.*

**Benzathine benzylpenicillin** is a form of penicillin also known as benzathine penicillin. It is a B-lactam antibiotic useful for the treatment of a number of bacterial infections. Benzathine benzylpenicllin is considered long acting B-lactam antibiotic.The bactericidal activity of penicillin G results from the inhibition of cell wall synthesis and is mediated through penicillin G binding to penicillin binding proteins (PBPs).
**Dihydrostreptomycin** is an antibiotic of the aminoglycosides group. It reduces bacterial protein synthesis at the 30S-subunit of the ribosomes. It is a rapid acting, bactericide antibiotic, mainly active against Gram-negative bacteria such as E.coli, Klebsiella spp., Salmonella spp., Actinobacillus spp., Shigella spp., Pasturella spp., and some Gram-postive bacteria such as Mycobacteria, Bacillus anthracis, and some Staphylococci, Leptospira spp. and some Mycoplasmas.
**Dexamethasone Sodium Phosphate and Dexamethasone -21 Isonicotinate** are synthetic adrenocorticosteroids with glucocorticoid activity. The anti-inflammatory actions of dexamethasone are thought to involve phospholipase A2 inhibitory proteins and lipocortins, which control the biosynthesis of potent mediators of inflammation such as prostaglandins and leukotrienes.

**PHARMACOKINETICS:**
**Penicillin G Procaine** is an equimolecular compound of procaine and penicillin G, administered intramuscularly as a suspension. It dissolves slowly at the site of injection, giving a plateau type of blood level at about 4 hours which falls slowly over a period of the next 15 to 20 hours.
Approximately 60% of penicillin G is bound to serum protein. The drug is distributed throughout the body tissues in widely varying amounts. Highest levels are found in the kidneys with lesser amounts in the liver, skin, and intestines. Penicillin G penetrates into all other tissues to a lesser degree with a very small level found in the cerebrospinal fluid. With normal kidney function, the drug is excreted rapidly by tubular excretion. Approximately 60 to 90 percent of a dose of parenteral penicillin G is excreted in the urine within 24 to 36 hours.
**Benzathine benzylpenicillin** after IM administration, absorption is slow. Time to peak: within 12 to 24 hours; serum levels are usually detectable for 1 to 4 weeks depending on the dose; larger doses result in more sustained levels rather than higher levels. About 60% bounds to plasma proteins. After IM Injection, 16-30% of an intramuscular dose is metabolized to penicilloic acid, an inactive metabolite. Small amounts of 6-aminopenicillanic acid have been recovered in the urine on penicillin G. A small percentage of the drug appears to be hydroxylated into one or more active metabolites, which are also excreted via urine. Excreted by renal tubular excretion; penicillin G is detected in urine for upto 12 weeks after a single IM injection
**Dihydrostreptomycin sulphate** after intramuscular application is well and rapidly resorbed with maximal serum levels after approx. 30 minutes and antibacterial active levels
persisting for 8 to 12 hours. It is mainly distributed over the extracellular areas and is excreted for 70-90% in the active form by the kidneys
**Dexamethasone phosphate** intramuscular Injection give maximum plasma concentrations of dexamethasone at 1 hour its biological half- life in plasma is about 190 minutes. Binding of dexamethasone to plasma protein is about 77% Upto 65% of a dose is excreted in urine within 24 hours.

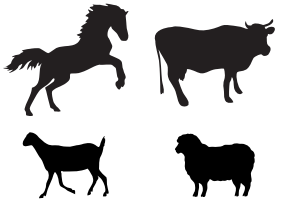
**DOSAGE & ADMINISTRATION:**
Administer the following dose by deep intramuscular injection.
**Cattle/Buffalo/Horse:** 10ml/100kg body weight by deep intramuscular route.
**Sheep/Goats/Small Animals:** 1ml /10 kg body weight by deep intramuscular route.
Dosage may be repeated every 48 hours until complete remission of symptoms.
**SIDE EFFECTS:**
Acute anaphylaxis
Urticaria
Red rash
Itching
Ototoxicity, neurotoxicity or nephrotoxicity
Neuro muscular paralysis
Fetal auditory toxicity

**CONTRAINDICATIONS:**
- Do not administer to animals known to be hypersensitive to one of the components.
- Renal insufficiency.

**PRECAUTIONS:**
- **Withdrawal Period: Meat:** 30 days, Milk: 3 days.
- **Shake well before use.**
- Do not administer to pregnant animals
- Store between 15-25°C in cool and dry place.
- Keep out of the reach of children.

**SPECIAL WARNING:**
Use with care in animals known to have kidney disease or defective renal function. Do not exceed the recommended dosage or duration of treatment. Special precautions for use in animals: Care should be taken not to exceed the recommended dosage. Aminoglycosides have a narrower margin of safety than beta lactam antibiotics. Special precautions to be taken by the person administering the veterinary medicinal product to animals: Care should be taken to avoid accidental self-injection. In the case of accidental self-injection, seek medical advice immediately. Penicillins and Aminoglycoside may cause hypersensitivity (allergy) following injection, inhalation, ingestion or skin contact. Hypersensitivity to penicillins may lead to cross-reactions to aminoglycoside and vice versa.
Allergic reaction to these substances may occasionally be serious.
1. Do not handle this product if you know you are sensitised, or if you have been advised not to work with such preparations.
2. Handle this product with great care to avoid exposure taking all recommended precautions.
3. If you develop symptoms following exposure, such as a skin rash, you should seek medical advice and show the doctor this warning. Swelling of the face, lips or eyes or difficulty in breathing are more serious symptoms and require urgent medical attention. Wash hands after use.

**Selmore's Specs.**



Selmore Pharmaceuticals (Pvt) Ltd.

**Manufactured by:**
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ISO CERTIFIED COMPANY