# Predef® 2X

(isoflupredone acetate injectable suspension)

For Intramuscular or Intrasynovial Use Only

FOR USE IN ANIMALS ONLY

CAUTION: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Each mL of PREDEF 2X contains 2 mg of isoflupredone acetate; also 4.5 mg sodium citrate hydrous; 120 mg polyethylene glycol 3350; 1 mg povidone; 0.201 mg myristyl-gamma-picolinium chloride added as preservative. When necessary, pH was adjusted with hydrochloric acid and/or sodium hydroxide. It is for intramuscular or intrasynovial injection in animals and is indicated in situations requiring glucocorticoid, anti-inflammatory, and/or supportive effect.

## **Metabolic and Hormonal Effects**

PREDEF 2X, a potent corticosteroid, has greater glucocorticoid

activity than an equal quantity of prednisolone.

The glucocorticoid activity of PREDEF 2X is approximately 10 times that of prednisolone, 50 times that of hydrocortisone, and 67 times that of cortisone as measured by liver glycogen deposition in rats. The gluconeogenic activity is borne out by its hyperglycemic effect in both normal and ketotic cattle.

Bovine Ketosis. PREDEF 2X, by its gluconeogenic and glycogen deposition activity, is an effective and valuable treatment for the endocrine and metabolic imbalance of primary bovine ketosis. The stresses of parturition and high milk production predispose the dairy

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cow to this condition. This adrenal steroid causes a prompt physiological effect, with blood glucose levels returning to normal or above within 8 to 24 hours following injection. There is a decrease in circulating eosinophils, followed by a reduction in blood and urine ketones. Usually the general attitude of the cow is much improved, appetite returns, and milk production rises to previous levels within 3 to 5 days. In secondary bovine ketosis, where the condition is complicated by pneumonia, mastitis, endometritis, traumatic gastritis, etc, PREDEF 2X should be used concurrently with proper local and parenteral antibacterial therapy, infusion solutions, and other accepted treatments for the primary conditions.

Musculoskeletal Conditions. As with other adrenal steroids, this preparation has been found useful in alleviating the pain and lameness associated with generalized and acute localized arthritic conditions in large animals. PREDEF 2X has been used successfully to treat laminitis, rheumatoid and traumatic arthritis, osteoarthritis, periostitis, tendinitis, tenosynovitis, bursitis, and myositis. Generalized muscular soreness, stiffness, depression, and anorexia resulting from overwork, shipping, unusual physical exertion, etc, respond promptly. Remission of symptoms may be permanent, or symptoms may recur, depending on the cause and extent of structural degeneration.

Allergic Reactions. PREDEF 2X is especially beneficial in treating acute hypersensitivity reactions resulting from treatment with a sensitizing drug or exposure to other allergenic agents. Usual manifestations are anaphylactoid reactions and urticaria. Less severe allergic manifestations, such as atopic and contact dermatitis, summer eczema, and conjunctivitis, may also be treated. Response is usually rapid and complete, although in severe cases with extensive lesions, more prolonged adrenocorticoid therapy and other appropriate treatment may be indicated.

Overwhelming Infections with Severe Toxicity. In animals moribund from overwhelmingly severe infections for which specific antibacterial therapy is available (eg, critical pneumonia, peritonitis, endometritis, septic mastitis), intensive PREDEF 2X therapy may aid in correcting the circulatory defect by counteracting the responsible inflammatory changes, thereby permitting the antibacterial agent to exert its full effect. As supportive therapy, this steroid combats the stress and improves the general attitude of the animal being treated. All necessary procedures for the establishment of a bacterial diagnosis should be carried out whenever possible before institution of therapy. PREDEF 2X therapy in the presence of infection should be administered for the shortest possible time compatible with maintenance of an adequate response, and antibacterial therapy should be continued for at least three days after the hormone has been withdrawn. Combined hormone and antibacterial therapy does not obviate the need for indicated surgical treatment.

Shock. PREDEF 2X is indicated in adrenal failure and shocklike states occurring in association with severe injury or other trauma, emergency surgery, anaphylactoid reactions, and elective surgery in poor surgical risks. It is recommended as an adjuvant to standard methods of combating shock, including use of plasma expanders. Because of interrelated physiologic activities, beneficial effects may not be exhibited until all such procedures have been employed.

Other Indications. Exhaustion following surgery or dystocia, retained placenta, inflammatory ocular conditions, snakebite, and other stress conditions are also indications for use. Its employment in the treatment of these conditions is recommended as a supportive measure to standard procedures and time-honored treatments will give comfort to the animal and hasten complete recovery.

PREDEF 2X has been found useful as supportive therapy in the treatment of the stress associated with parturient paresis ie, milk fever. It should be given intramuscularly, before or after the administration of the calcium infusion solutions commonly employed in treating the disease. PREDEF 2X is not to be added to the infusion solutions.

# **WARNINGS**

Animals intended for human consumption should not be slaughtered within 7 days of last treatment. Do not use in horses intended for human consumption. A withdrawal period has not been established for this product in preruminating calves. Do not use in calves to be processed for veal. Not for human use.

Clinical and experimental data have demonstrated that corticosteroids administered orally or parenterally to animals may induce the first stage of parturition when administered during the last trimester of pregnancy and may precipitate premature parturition followed by dystocia, fetal death, retained placenta, and metritis.

Additionally, corticosteroids administered to dogs, rabbits, and rodents during pregnancy have resulted in cleft palate in offspring.

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Corticosteroids administered to dogs during pregnancy have also resulted in other congenital anomalies, including deformed forelegs, phocomelia, and anasarca.

## **PRECAUTIONS**

PREDEF 2X exerts an inhibitory influence on the mechanisms and the tissue changes associated with inflammation. Vascular permeability is decreased, exudation diminished, and migration of the inflammatory cells markedly inhibited. In addition, systemic manifestations such as fever and signs of toxemia may also be suppressed. While certain aspects of this alteration of the inflammatory reaction may be beneficial, the suppression of inflammation may mask the signs of infection and tend to facilitate spread of microorganisms. However, in infections characterized by overwhelming toxicity, PREDEF 2X therapy in conjunction with appropriate antibacterial therapy is effective in reducing mortality and morbidity. Without concurrent use of an antibiotic to which the invader-organism is sensitive, injudicious use of the adrenal hormones in animals with infections can be hazardous. As with other corticoids, continued or prolonged use is discouraged.

While no sodium retention nor potassium depletion has been observed at the doses recommended in animals receiving 9-fluoroprednisolone acetate, as with all corticoids, animals should be under close observation for possible untoward effects. If symptoms of hypopotassemia should occur, corticoid therapy should be discontinued and 5% solution of potassium chloride administered by continuous intravenous drip.

(continued below)

### DOSAGE AND ADMINISTRATION

PREDEF 2X is administered by deep intramuscular injection for systemic effect, or into joint cavity, tendon sheath, or bursa for local

Cattle. The usual intramuscular dose for cattle is 10 to 20 mg. according to the size of the animal and severity of the condition. This dose may be repeated in 12 to 24 hours if indicated.

Ketosis studies have demonstrated that relatively high initial doses of corticoids produce a more prompt recovery with a lower incidence of relapse than when relatively low doses are used, even when these are repeated. Response of ketosis to PREDEF 2X therapy parallels that derived with prednisolone. PREDEF 2X is 10 times more glucogenic than prednisolone. Thus, 10 mg of isoflupredone acetate therapeutically equals 100 mg of prednisolone.

In the event of poor response or relapse, diagnosis should be reconfirmed by re-examining the animal for complications (ie, pneumonia, metritis, traumatic gastritis, mastitis).

Horses. The usual intramuscular dose for horses is 5 to 20 mg repeated as necessary. The usual intrasynovial dose in joint inflammation, tendinitis, or bursitis is 5 to 20 mg or more, depending on the size of the cavity to be injected.

Swine. The usual intramuscular dose for swine is 5 mg for a 300 pound animal. The dose for larger or smaller pigs is proportional to the weight of the animal.

# **HOW SUPPLIED**

PREDEF 2X, 2 mg per mL, is available in 100 mL vials. Store at controlled room temperature 20° to 25° C (68° to 77° F). NADA 011-789, Approved by FDA

# zoetis

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