

# DOTFAR

## Ceftiofur Sodium Dry Injection for Veterinary Use

### Description

Ceftiofur Sodium Injection is a sterile lyophilized powder designed for veterinary use. It contains **Ceftiofur Sodium**, a third-generation cephalosporin antibiotic with broad-spectrum bactericidal activity against Gram-positive and Gram-negative bacteria, including many  $\beta$ -lactamase-producing strains.

Ceftiofur is rapidly metabolized in vivo to an active metabolite, desfuroylceftiofur, which retains antimicrobial activity. It is widely used in veterinary medicine for the treatment of respiratory, urinary, and soft tissue infections among various animal species.

### Specifications

- **Dosage Form:** Sterile lyophilized powder for injection
- **Appearance (Dry Powder):** White to off-white crystalline powder
- **Appearance (Reconstituted Solution):** Clear to slightly opalescent solution
- **pH (Reconstituted Solution):** 5.5 – 7.0
- **Sterility:** Complies with pharmacopeial veterinary standards
- **Assay:** 90% – 110% of labelled content
- **Moisture Content:** Within pharmacopeial limits
- **Container:** Type I glass vial with rubber stopper and aluminium seal

### Composition

Each vial contains:

- **Ceftiofur Sodium U.S.P.** – 0.5 gm or 1 gm
- **Excipients:** q.s.
- **Sterile Water for Injection:** Provided free for reconstitution

## Pharmacological Category

- **Therapeutic Class:** Antibiotic (Cephalosporin)
- **Mechanism of Action:**  
Ceftiofur inhibits bacterial cell wall synthesis by binding to penicillin-binding proteins (PBPs), leading to cell death. It is effective against a broad range of pathogens including Pasteurella, Mannheimia, Escherichia coli, and Staphylococcus species.

## Indications (Veterinary Use)

Treatment of infections caused by susceptible bacteria in:

- Bovine respiratory disease (BRD)
- Swine respiratory infections
- Mastitis and metritis in cattle
- Urinary tract infections
- Skin and soft tissue infections
- Septicaemia and other systemic infections in cattle, swine, and other species

## Dosage and Route of Administration

**Route:**

- Intramuscular (I.M.) or Subcutaneous (S.C.) injection

**Dosage:**

- **Cattle:** 1 mg/kg body weight once daily or as directed by a veterinarian
- **Swine:** 3 mg/kg body weight once daily
- **Duration:** Typically 3–5 days or per veterinary prescription

## Dosage Form and Presentation

- Sterile dry powder for injection
- Available vial sizes: 0.5 gm and 1 gm
- Each pack includes sterile water for injection for reconstitution

## **Key Advantages**

- Broad-spectrum cephalosporin antibiotic
- Rapid onset of action due to parenteral administration
- Effective against  $\beta$ -lactamase producing bacteria
- Good tissue penetration and therapeutic efficacy
- Suitable for treatment of multiple infections across species

## **Adverse Effects**

- Transient local irritation or swelling at injection site
- Allergic reactions (rare)
- Possible gastrointestinal disturbances

## **Precautions and Contraindications**

- Not to be used in animals with known hypersensitivity to cephalosporins
- Use caution in animals with severe renal impairment
- Avoid extravasation of the injection to prevent tissue irritation
- Follow all veterinary prescription guidelines
- Not for human use

## **Withdrawal Period**

- **Meat:** Minimum 7 days
- **Milk:** Minimum 3 days

Withdrawal periods may vary by jurisdiction; always follow local regulatory requirements.

## **Storage and Handling**

- Store in a cool, dry place below 25°C
- Protect from light and moisture
- Do not freeze/ Discard unused solution responsibly
- Use immediately after reconstitution

## **Schedule / Regulatory Classification**

- Veterinary prescription-only medicine
- Regulated under Schedule H or local equivalent
- Not for human consumption

## **HS Code / HSN Code**

- **HS Code (International):** 3004.20 – Antibiotics for veterinary use
- **HSN Code (India):** 3004.20.90 – Cephalosporin formulations

## **Special Instructions**

- Use aseptic technique for reconstitution and injection
- Complete full prescribed course to prevent resistance
- Do not mix with other drugs unless compatibility is established
- Monitor animals for adverse reactions during therapy

## **Frequently Asked Questions (FAQs)**

### **Q1: What infections can Ceftiofur treat?**

A: Respiratory, urinary, soft tissue infections, mastitis, and septicaemia caused by susceptible bacteria in animals.

### **Q2: Can it be used in lactating animals?**

A: Yes, but observe milk withdrawal period strictly.

### **Q3: How is the drug administered?**

A: Via intramuscular or subcutaneous injection after reconstitution.

### **Q4: Can the reconstituted solution be stored?**

A: No, use immediately after preparation.

### **Q5: What precautions should be taken?**

A: Avoid use in hypersensitive animals; handle carefully to prevent injection site irritation.