EXCENEL® RTU EZ Sterile Suspension is a formulation containing ceftiofur hydrochloride as its active ingredient. The product is indicated for the treatment of infections caused by susceptible organisms. The following information is provided to assist in the use of this product.

### DOSAGE AND ADMINISTRATION

**Cattle:**
- For intramuscular injection in swine:
  - Administer by intramuscular injection in swine. When used according to label instructions, dosage and route of administration, treated cattle must not be slaughtered for 4 days when injection site volumes are less than or equal to 5 mL.
  - When used according to label instructions, dosage and route of administration, treated cattle must not be slaughtered for 8 days following the last treatment when injection site volumes are greater than 5 mL. In the event of accidental exposure, wash with soap and water, then rinse thoroughly with clean water. In case of accidental exposure, flush with water for 15 minutes.

**Swine:**
- For intramuscular injection in swine:
  - Administer by intramuscular injection in swine. In case of accidental exposure, flush with water for 15 minutes.

**Ceftiofur Hydrochloride**

Ceftiofur hydrochloride is a synthetic, broad-spectrum, cephalosporin-class β-lactam antibiotic. It is indicated for the treatment of infections caused by susceptible organisms. The effectiveness of ceftiofur administered as either ceftiofur sodium or ceftiofur hydrochloride is dependent upon its inhibition of cell wall synthesis.

### Clinical Pharmacology

**Mechanism of Action:**
- Ceftiofur inhibits bacterial cell wall synthesis by inhibiting the transpeptidase and β-lactamase activities of the bacterial cell wall. It is a potent inhibitor of the β-lactamase enzymes produced by Gram-negative bacteria, such as Escherichia coli and Klebsiella pneumoniae.

**Pharmacokinetics:**
- The pharmacokinetics of ceftiofur administered as either ceftiofur sodium or ceftiofur hydrochloride have been extensively studied. The product is formulated as a sterile suspension, and the formulation is designed to enhance the stability and activity of the active ingredient.

### RESIDUE WARNINGS

- Ceftiofur administered as either ceftiofur sodium or ceftiofur hydrochloride may affect the withdrawal period in swine. When used according to label instructions, dosage, and route of administration, treated swine must not be slaughtered for 4 days following the last treatment when injection site volumes are less than or equal to 5 mL. In the event of accidental exposure, wash with soap and water, then rinse thoroughly with clean water. In case of accidental exposure, flush with water for 15 minutes.

### CONTRAINDICATIONS

- Ceftiofur should not be administered to animals with known hypersensitivity to β-lactam compounds.

### WARNINGS

- Do not use in calves to be processed for veal.
- Do not inject more than 15 mL per injection site.

### OVERDOSAGE

- Overdosage may lead to sensitization. Avoid direct contact of the product with the skin, eyes, mouth and clothing.

### Additional Information

- For additional information about adverse drug experiences reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at http://www.fda.gov/AnimalVeterinary/SafetyHealth.
bioequivalent for AUC0-LOQ and Cmax. Therefore, EXCENEL RTU EZ intramuscular administration in swine were compared and found to be Sterile Suspension or as EXCENEL RTU EZ Sterile Suspension following

**ANIMAL SAFETY**

Swine: Evaluation of target animal safety in swine was based on a PK comparison between the reformulated EXCENEL RTU EZ Sterile Suspension and EXCENEL RTU Sterile Suspension. Ceftiofur administered by IM injection site observations. Swelling progressively decreased over time, and swelling at the injection sites. Injection site swelling was observed in a very small number of occasions. Mild swelling, erythema, and firmness were evaluated through 42 days after the first treatment. No test article-related health issues were observed. No pathologic changes consistent with inflammation were noted in treated pigs necropsied up to 42 days after injection.

Table 5: CLSI-accepted interpretive criteria for ceftiofur against swine and cattle respiratory pathogens

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<th>MIC breakpoint (μg/mL)</th>
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<tr>
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<td>20</td>
<td>0.016</td>
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<td><em>Histophilus somni</em></td>
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**TISSUE RESIDUE DEPLETION**

Swine: Evaluation of target animal safety in swine was based on a PK comparison between the reformulated EXCENEL RTU EZ Sterile Suspension and EXCENEL RTU Sterile Suspension. Ceftiofur administered by IM injection site observations. Swelling progressively decreased over time, and swelling at the injection sites. Injection site swelling was observed in a very small number of occasions. Mild swelling, erythema, and firmness were evaluated through 42 days after the first treatment. No test article-related health issues were observed. No pathologic changes consistent with inflammation were noted in treated pigs necropsied up to 42 days after injection.

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**EFFECTIVENESS**

Swine: Plasma concentrations of ceftiofur administered as EXCENEL RTU Sterile Suspension or as EXCENEL RTU EZ Sterile Suspension following intramuscular administration in swine were compared and found to be equivalent in cattle for assessing MIC breakpoints. Ceftiofur residues in tissues such as the kidney and muscle by 4 days after administration. Ceftiofur residues in edible tissues were evaluated through 21 days after the first treatment. Mild swelling, erythema, and firmness were observed in a very small number of occasions. Mild swelling, erythema, and firmness were evaluated through 42 days after the first treatment. No test article-related health issues were observed. No pathologic changes consistent with inflammation were noted in treated pigs necropsied up to 42 days after injection.

**HOW SUPPLIED**

EXCENEL RTU EZ Sterile Suspension is available in 100 mL and 250 mL vials. Approved by FDA under NADA # 141-288

**Distributed by:** Zoetis Inc.

**Kalamazoo, MI 49007**

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