

FEB 12 1999

Date Approval _____

FREEDOM OF INFORMATION SUMMARY

Abbreviated New Animal Drug Application

Oxytetracycline injection
GEOMYCIN 200

ANADA 200-232

Sponsored by:

PLIVA, d.d.
Ulica grada Vukovara 49
10000 Zagreb, CROATIA

FREEDOM OF INFORMATION SUMMARY

1. GENERAL INFORMATION:

ANADA Number:	ANADA 200-232
Sponsor Name:	PLIVA, d.d. Ulica grada Vukovara 49 10000 Zagreb, CROATIA
Established Name:	Oxytetracycline injection
Trade/Proprietary Name:	GEOMYCIN 200
Dosage Form:	Sterile injectable solution
How Supplied:	100 mL bottles and 500 mL bottles
How Dispensed:	OTC
Amount of Active Ingredient:	200 mg/mL
Route of Administration:	Intramuscular in swine, intramuscular or intravenous in cattle
Species:	Beef cattle, non-lactating dairy cattle, and swine
Pioneer Product/"Listed" Product:	Liquamycin [®] LA-200 [®] ; oxytetracycline injection; NADA 113-232; Pfizer

2. INDICATION FOR USE:

GEOMYCIN 200 (Oxytetracycline Injection) is intended for use in the treatment of the following diseases in beef cattle, nonlactating dairy cattle and swine when due to oxytetracycline susceptible organisms.

CATTLE

GEOMYCIN 200 (Oxytetracycline Injection) is indicated in the treatment of the pneumonia and shipping fever complex associated with *Pasteurella* spp. and *Hemophilus* spp.; infectious bovine *keratoconjunctivitis* (pinkeye) caused by *Moraxella bovis*; foot rot and diphtheria caused by *Fusobacterium necrophorum*; bacterial enteritis (scours) caused by *Escherichia*

coli; wooden tongue caused by *Actinobacillus lignieresii*; leptospirosis caused by *Leptospira pomona*; and wound infection and acute metritis caused by strains of staphylococci and streptococci organisms sensitive to oxytetracycline.

SWINE

In swine, GEOMYCIN 200 (Oxytetracycline Injection) is indicated in the treatment of the bacterial enteritis (scours, colibacillosis) caused by *Escherichia coli*; pneumonia caused by *Pasteurella multocida*; and leptospirosis caused by *Leptospira pomona*.

In sows, GEOMYCIN 200 (Oxytetracycline Injection) is indicated as an aid in the control of infectious enteritis (baby pig scours, colibacillosis) in suckling pigs caused by *Escherichia coli*.

3. DOSAGE

CATTLE

GEOMYCIN 200 (Oxytetracycline Injection) is to be administered by intramuscular or intravenous injection to beef cattle and nonlactating dairy cattle.

A single dose of 9 mg of GEOMYCIN 200 (Oxytetracycline Injection) per pound of body weight administered intramuscularly is recommended in the treatment of the following conditions: 1) bacterial pneumonia caused by *Pasteurella* spp. (shipping fever) in calves and yearlings, where retreatment is impractical due to husbandry conditions, such as cattle on range, or where their repeated restraint is inadvisable; 2) infectious bovine keratoconjunctivitis (pinkeye) caused by *Moraxella bovis*.

GEOMYCIN 200 (Oxytetracycline Injection) is to be administered by intramuscular or intravenous injection at a level 3 to 5 mg of oxytetracycline per pound of body weight per day. In the treatment of severe foot rot and advanced cases of other indicated diseases, a dosage level of 5 mg per pound of body weight per day is recommended. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hour of the beginning of treatment.

SWINE

A single doses of 9 mg of GEOMYCIN 200 (Oxytetracycline Injection) per pound of body weight administered intramuscularly is recommended in the treatment of bacterial pneumonia caused by *Pasteurella multocida* in swine, where retreatment is impractical due to husbandry conditions or where repeated restraint is inadvisable.

GEOMYCIN 200 (Oxytetracycline Injection) can also be administered by intramuscular injection at a level of 3 to 5 mg of oxytetracycline per pound of body weight per day. Treatment should be continued 24 to 48 hours following remission of diseases signs;

however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment

For sows, administer once intramuscularly 3 mg. of oxytetracycline per pound of body weight approximately 8 hours before farrowing or immediately after completion of farrowing.

For swine weighing 25 lb. of body weight and under, GEOMYCIN 200 (Oxytetracycline Injection) should be administered undiluted for treatment at 9 mg/lb but should be administered diluted for treatment at 3 or 5 mg/lb.

4. EFFECTIVENESS AND BIOEQUIVALENCY:

Under the provisions of the Federal Food, Drug and Cosmetic Act, as amended by the Generic Animal Drug and Patent Term Restoration Act, (53 FR 50460, December 15, 1988, First GADPTRA Policy Letter) an abbreviated new animal drug application (ANADA) may be submitted for a generic version of an approved new animal drug (pioneer product). New target animal safety data, drug effectiveness data and human food safety data (other than tissue residue data) are not required for approval of an ANADA. An ANADA relies on the target animal safety, drug effectiveness, and human food safety data in the pioneer's new animal drug application. Ordinarily, the ANADA sponsor shows that the generic product is bioequivalent to the pioneer. If bioequivalence is demonstrated through a clinical end-point study, then a tissue residue study to establish the withdrawal time for the generic product is also required. For certain dosage forms, the agency will grant a waiver from conducting an *in vivo* bioequivalence study (55 FR 24645, June 18, 1990; Fifth GADPTRA Policy Letter; Bioequivalence Guideline, April 1990).

Based upon the formulation characteristics of the generic product, PLIVA d.d. , was granted a waiver from conducting an *in vivo* bioequivalence study for oxytetracycline injection. The generic and pioneer products contain the same active and inactive ingredients and are parenteral solutions.

5. HUMAN FOOD SAFETY

Tolerance

Tolerances are established for the sum of residues of the tetracyclines including chlortetracycline, oxytetracycline, and tetracycline, in tissues of cattle, dairy calves, swine, sheep, chickens, turkeys, catfish, lobsters, and salmonids, as follows:

- (a) 2 parts per million (ppm) in muscle
- (b) 6 ppm in liver
- (c) 12 ppm in fat and kidney

Withdrawal Time

The withdrawal times are those previously assigned to the pioneer product. The withdrawal time for oxytetracycline injection is established under 21 CFR 522.1660; 28 days for beef cattle, nonlactating dairy cattle, and swine.

Regulatory Method for Residues

The analytical method for detection of residues of the drug is the cylinder plate microbiological test using *Bacillus cereus* var. *mycoides* (ATCC 11778) as outlined in the "Antibiotic Residues in Milk, Dairy Product and Animal Tissues: Methods, Reports, and Protocols" October 1968. National Center for Antibiotic and Insulin Analysis, FDA, Washington, D.C. 20204.

6. AGENCY CONCLUSIONS

This ANADA submitted under section 512(b) of the Federal Food, Drug, And Cosmetic Act satisfies the requirements of section 5123(n) of the Act and demonstrates that GEOMYCIN 200 (oxytetracycline hydrochloride) when used under the proposed conditions of use, is safe and effective for its labeled indications.

Attachments:

The generic GEOMYCIN 200 (Oxytetracycline Injection) labeling and approved pioneer Liquamycin[®] LA-200[®] labeling.

Generic
100ml – bottle - Geomycin 200
500ml – bottle - Geomycin 200
Package insert - Geomycin 200

Pioneer
100ml – bottle – Liquamycin LA-200
500ml – bottle – Liquamycin LA-200
Package insert – Liquamycin LA-200

Package Insert - PLIVA

Proposed PLIVA Generic Oxytetracycline Injection

Proposed Package Insert

**GEOMYCIN 200
(Oxytetracycline Injection)
Antibiotic**

Each mL contains 200 mg of oxytetracycline base as oxytetracycline amphoteric.

For Use in Beef Cattle, Nonlactating Dairy Cattle and Swine

Read entire brochure carefully before using this product.

GEOMYCIN 200 (Oxytetracycline Injection) is a sterile, ready-to-use solution for the administration of the broad-spectrum antibiotic oxytetracycline by injections. Oxytetracycline is an antimicrobial agent that is effective in the treatment of a wide range of diseases caused by the susceptible gram-positive and gram-negative bacteria.

GEOMYCIN 200 (Oxytetracycline Injection) does not require refrigeration, however, it is recommended that it be stored at room temperature, 15°-30°C (59°-86°F). The antibiotic activity of oxytetracycline is not appreciably diminished in the presence of body fluids, serum or exudates.

WARNING

➔ Discontinue treatment at least 28 days prior to the slaughter of cattle or swine. ←
Not for use in lactating dairy animals.

PRECAUTIONS

Exceeding the highest recommended dosage level of drug per pound of body weight per day, administering more than the recommended number of treatment, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

Reactions of an allergic or anaphylactic nature, sometimes fatal, have been known to occur in hypersensitive animals following the injection of oxytetracycline. Such adverse reactions can be characterized by signs such as restlessness, erection of hair, muscle trembling, swelling of eyelids, ears, muzzle, anus and vulva (or scrotum and sheath in males); labored breathing, defecation and urination, glassy eyed appearance, eruption of skin plaques, frothing from the mouth, prostration. Pregnant animals that recover may abort. At the first sign of any adverse reaction, discontinue use of this product and administer epinephrine at the recommended dosage levels. Call a veterinarian immediately.

Shock may be observed following intravenous administration, especially where highly concentrated materials are involved. To minimize this occurrence, it is recommended that GEOMYCIN 200 (Oxytetracycline Injection) be administered slowly by this route.

Shortly after injection, treated animals may have transient hemoglobinuria resulting in darkened urine.

As with all antibiotic preparations, use of this drug may result in the overgrowth of nonsusceptible organisms, including fungi. A lack of response by the treated animal, or the development of new signs may suggest that an overgrowth of nonsusceptible organisms has occurred. If any of these conditions occur, consult your veterinarian.

Since bacteriostatic drug may interfere with the bactericidal action of penicillin, it is advisable to avoid giving GEOMYCIN 200 (Oxytetracycline Injection) in conjunction with penicillin.

STORAGE

Store at room temperature 15°-30°C (59°-86°F). Keep from freezing.

CARE OF SICK ANIMALS

The use of antibiotics in the management of diseases is based on an accurate diagnosis and an adequate course of treatment. When properly used in the treatment of diseases caused by oxytetracycline susceptible organisms, most animals should show a noticeable improvement within 24 to 48 hours. It is recommended that the diagnosis and treatment of animal diseases be carried out by a veterinarian. Since many diseases look alike but require different types of treatment, the use of professional veterinary and laboratory services can reduce treatment time, costs, and needless losses. Good housing, sanitation and nutrition are important in the maintenance of healthy animals and are essentially in the treatment of diseased animals.

INDICATIONS

GEOMYCIN 200 (Oxytetracycline Injection) is intended for the use in the treatment of the following diseases in beef cattle, nonlactating dairy cattle and swine due to oxytetracycline susceptible organisms.

Cattle

In cattle, GEOMYCIN 200 (Oxytetracycline Injection) is indicated in the treatment of pneumonia and shipping fever complex associated with *Pasteurella* spp. and *Haemophilus* spp; infectious bovine keratoconjunctivitis (pinkeye) caused by *Moraxella bovis*; foot-rot and diphtheria caused by *Fusobacterium necrophorum*; bacterial enteritis (scours), caused by *Escherichia coli*; wooden tongue caused by *Actinobacillus lignieresii*, leptospirosis caused by *Leptospira pomona*; and wound infections and acute metritis caused by strains of staphylococci and streptococci organisms susceptible to oxytetracycline.

Swine

In swine, GEOMYCIN 200 (Oxytetracycline Injection) is indicated in the treatment of bacterial enteritis (scours, colibacillosis) caused by *Escherichia coli*; pneumonia caused by *Pasteurella multocida*; and leptospirosis caused by *Leptospira pomona*.

In sows, GEOMYCIN 200 (Oxytetracycline Injection) is indicated as an aid in the control of infectious enteritis (baby pig scours, colibacillosis) in suckling pigs caused by *Escherichia coli*.

DOSAGE

Cattle

GEOMYCIN 200 (Oxytetracycline Injection) is to be administered by intramuscular or intravenous injection to beef cattle and nonlactating dairy cattle.

A single dosage of 9 mg of GEOMYCIN 200 (Oxytetracycline Injection) per pound of body weight administered intramuscularly is recommended in the treatment of the following conditions: (1) bacterial pneumonia caused by *Pasteurella* spp. (shipping fever) in calves and yearlings, where retreatment is impractical due to husbandry conditions, such as, cattle on the range, or where their repeated restraint is inadvisable; and (2) infectious bovine keratoconjunctivitis (pink eye) caused by *Moraxella bovis*.

GEOMYCIN 200 (Oxytetracycline Injection) can also be administered by intravenous or intramuscular injection at a level of 3 to 5 milligrams of oxytetracycline per pound of body weight per day. In the treatment of severe foot-rot and advanced cases of other indicated diseases, a dosage level of 5 milligrams per pound of body weight per day is recommended. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment.

Swine

In swine, a single dosage of 9 milligrams of GEOMYCIN 200 (Oxytetracycline Injection) per pound of body weight administered Intramuscularly is recommended in the treatment of bacterial pneumonia caused by *Pasteurella multocida* in swine, where retreatment is impractical due to husbandry conditions or where repeated restraint is inadvisable.

GEOMYCIN 200 (Oxytetracycline Injection) can also be administered by intramuscular injection at a level of 3 to 5 milligrams of oxytetracycline per pound of body weight per day. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment.

For sows, administer once intramuscularly 3 milligrams of oxytetracycline per pound of body weight approximately 8 hours before or immediately after completion of farrowing.

For swine weighing 25 lb of body weight and under, GEOMYCIN 200 (Oxytetracycline Injection) should be administered undiluted for treatment at 9 mg/lb, but should be administered diluted for treatment at 3 to 5 mg/lb.

Body Weight	<u>9 mg/lb dosage</u>		<u>3 or 5 mg/lb dosage</u>		
	volume of UNDILUTED		volume of DILUTED		
	GEOMYCIN 200 (Oxytetracycline Injection) 9 mg/lb		GEOMYCIN 200 (Oxytetracycline Injection) 3 mg/lb Dilution* 5 mg/lb		
5 lb	0.2 mL	0.6 mL	1:7	1.0 mL	
10 lb	0.5 mL	0.9 mL	1:5	1.5 mL	
25 lb	1.1 mL	1.5 mL	1:3	2.5 mL	

* To prepare dilution, add one part of GEOMYCIN 200 (Oxytetracycline Injection) to three, five or seven parts of sterile water, or 5% dextrose solution as indicated; the diluted product should be used immediately.

DIRECTION FOR USE

GEOMYCIN 200 (Oxytetracycline Injection) is intended for the use in the treatment of disease due to oxytetracycline susceptible organisms in beef cattle, nonlactating dairy cattle and swine. A thoroughly cleaned, sterile needle and syringe should be used for each injection. Needles and syringes may be sterilised by boiling in water for 15 minutes. In cold weather GEOMYCIN 200 (Oxytetracycline Injection) should be warmed to room temperature before administration to animals. Before withdrawing the solution from the bottle, disinfect the rubber cap on the bottle with a suitable disinfectant, such as 70% alcohol. The injection site should be similarly cleaned with disinfectant. Needles of 16 to 18 gauge and 1 to 1 1/2 inches long are adequate for intramuscular injections. Needles 2 to 3 inches are recommended for intravenous use.

INTRAMUSCULAR ADMINISTRATION

Intramuscular injections should be made by directing the needle of suitable gauge and length into the fleshy part of a thick muscle, such as in the rump, hip, or thigh regions; avoid blood vessels and major nerves. Before injecting the solution, pull back gently on the plunger. If blood appears in the syringe, a blood vessel has been entered; withdraw the needle and select a different site. No more than 10 mL should be injected intramuscularly at any one site in adult beef cattle and nonlactating dairy cattle, and not more than 5 mL per site in adult swine; rotate injection sites for each succeeding treatment. The volume administered per injection site should be reduced according to age and body size so that 1 to 2 mL per site is injected in small calves.

INTRAVENOUS ADMINISTRATION

GEOMYCIN 200 (Oxytetracycline Injection) may be administered intravenously to beef cattle and nonlactating dairy cattle. As with all highly concentrated materials, GEOMYCIN 200 (Oxytetracycline Injection) should be administered *slowly* by the intravenous route.

Preparation of the Animal for Injection

1. Approximate the location of a vein. The jugular vein runs in the jugular groove on each side of the neck from the angle of the jaw to just above the brisket and slightly above and to the side of the windpipe. (See Fig. I).
2. Restraint. A stanchion or chute is ideal for restraining the animal. With a halter, rope or cattle leader (nose tongs) pull the animal's head around the side of the stanchion, cattle chute or post in such a manner to form a bow in the neck (See Fig. II), then snub the head securely to prevent movement. By forming the bow in the neck, the outside curvature of the bow will tend to expose the jugular vein and make it easily accessible. Caution: Avoid restraining an animal with a tight rope or halter around the throat or upper neck which might impede blood flow. Animals that are down present no problem so far as restraint is concerned.
3. Area of injection. Clip hair in the area where the injection is to be made (over the vein in the upper part of the neck). Clean and disinfect the skin with alcohol or other suitable antiseptic.

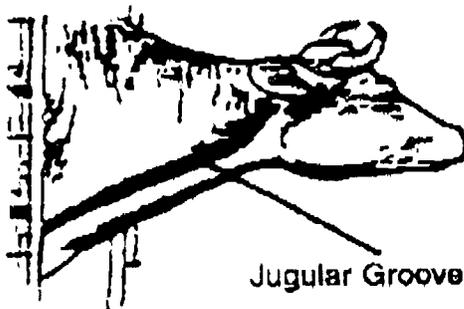


FIGURE I



FIGURE II

Entering the Vein and Making the Injection

- 1. Raise the vein.** This is accomplished by tying the choke rope tightly around the neck close to the shoulder. The rope should be tied in such a way that it will not come loose and so that it can be untied quickly by pulling the loose end (See Fig. II). In thick-necked animals, a block of wood placed in the jugular groove between the rope and the hide will help considerably in applying the desired pressure at the right point. The vein is a soft flexible tube through which blood flows back to the heart. Under ordinary conditions, it cannot be seen or felt with the fingers. When the flow of blood is blocked at the bases of the neck by the choke rope, the vein becomes enlarged and rigid because of the back pressure. If the choke rope is sufficiently tight the vein stands out and can easily be seen and felt in thin-necked animals. As a further check in identifying the vein, tap it with the fingers in front of the choke rope. Pulsation that can be seen or felt with the fingers in front of the point being tapped will confirm the fact that the vein is properly distended. It is impossible to put the needle into the vein unless it is distended. Experienced operators are able to raise the vein simply by hand pressure, but the use of a choke rope is more certain.
- 2. Inserting the needle.** This involves three distinct steps. First, insert the needle through the hide. Second, insert the needle into the vein. This may require two or three attempts before the vein is entered. The vein has a tendency to roll away from the point of the needle, especially if the needle is not sharp. The vein can be steadied by the finger and thumb of one hand. With the other hand, the needle point is placed directly over one hand. With the other hand, the needle point is placed directly over the vein, slanting it so that its direction is along the length of the vein, either towards the head or heart. Properly positioned this way, a quick thrust of the needle will be followed by a spurt of blood through the needle, which indicates the vein has been entered. Third, once in the vein, the needle should be inserted along the length of the vein all the way to the hub of the needle, exercising caution to see that the needle does not penetrate the opposite side of the vein. Continuous steady flow of blood through the needle indicates that the needle is out of the vein (or clogged) and another attempt must be made. If difficulty is encountered, it may be advisable to use the vein on the other side of the neck.

3. Medication. While the needle is being placed in proper position in the vein, an assistant should get the medication ready so that injection can be started without delay after the vein has been entered.
4. Making the injection. With the needle in position as indicated by the continuous flow of blood, release the choke rope by a quick pull on the free end. This is essential! The medication can not flow into the vein while it is blocked. Immediately connect the syringe containing GEOMYCIN 200 (Oxytetracycline Injection) to the needle and slowly depress the plunger. If there is resistance to depression of the plunger, this indicates the needle has slipped out of the vein (or is clogged). The procedure will have to be repeated. Watch for any swelling under the skin near the needle, which would indicate that the medication is not going into the vein. Should this occur, it is best to try the vein on the opposite side of the neck.
5. Removing the needle. When the injection is complete, remove the needle with a straight pull. Then apply pressure over the area of the injection momentarily to control any bleeding through the needle puncture, using cotton soaked in alcohol or other suitable antiseptic.

LIVESTOCK DRUG, NOT FOR HUMAN USE
RESTRICTED DRUG, USE ONLY AS DIRECTED

ANADA:

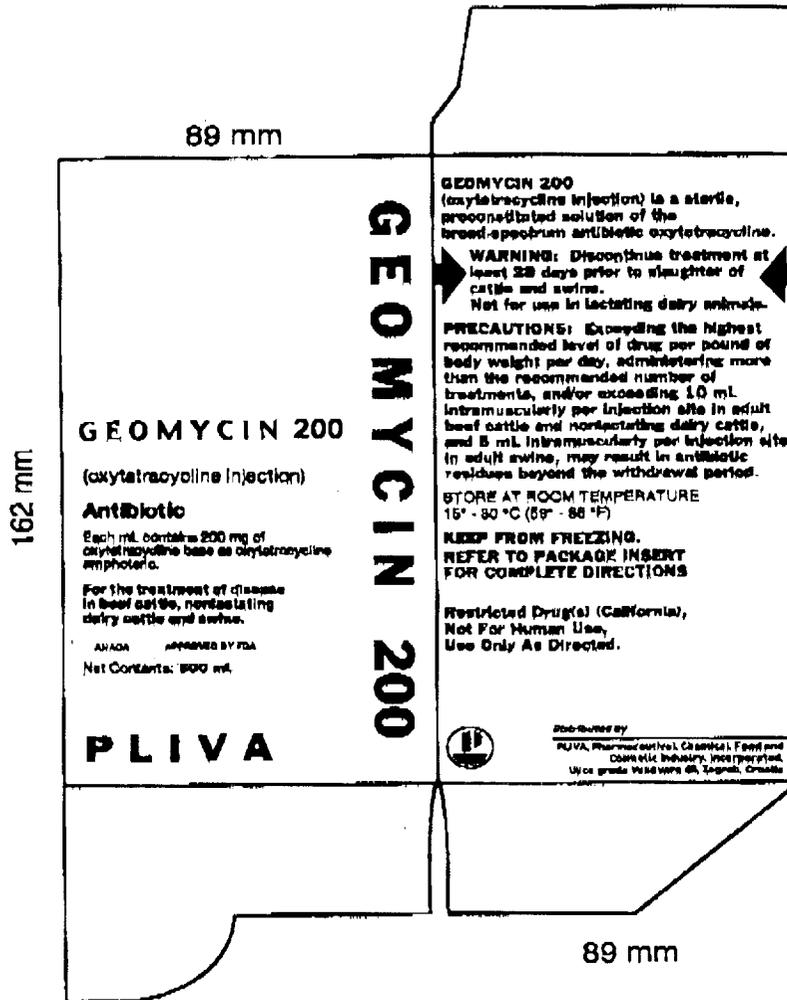
Approved by FDA

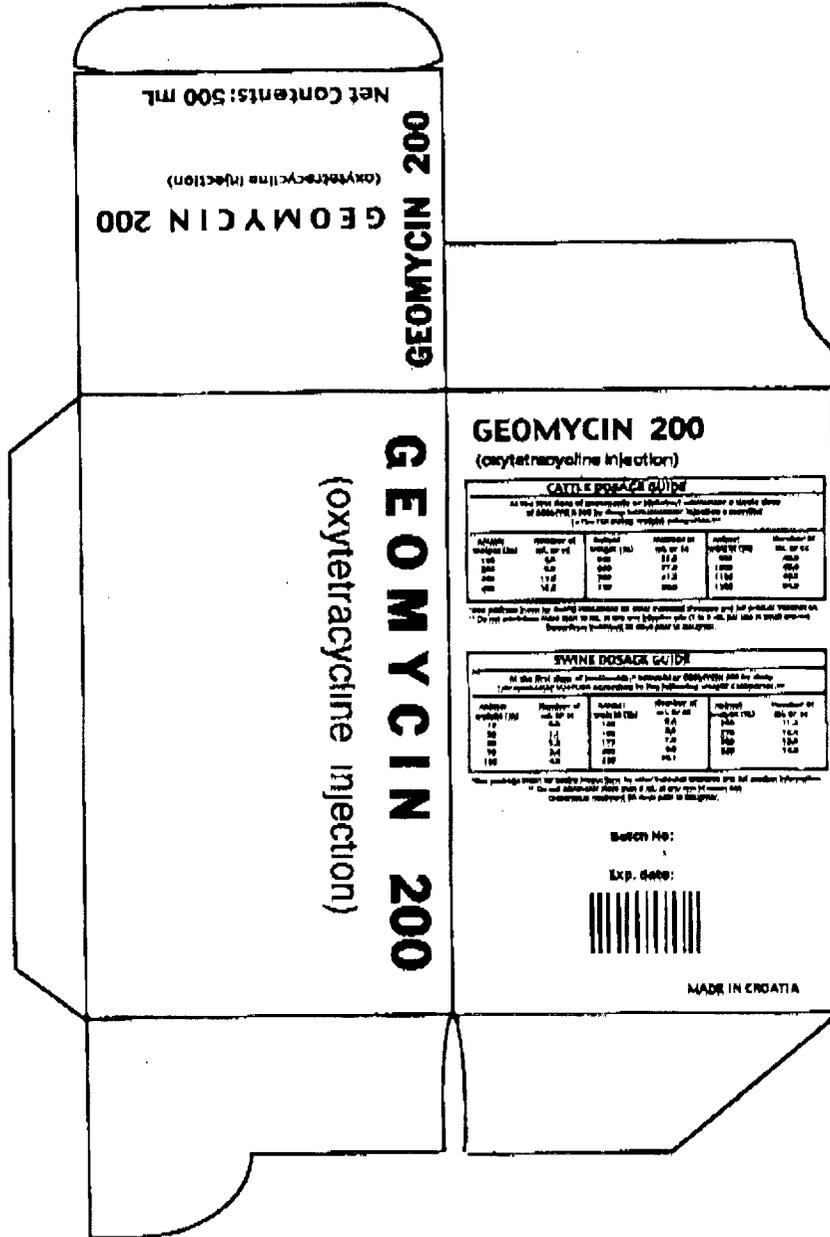
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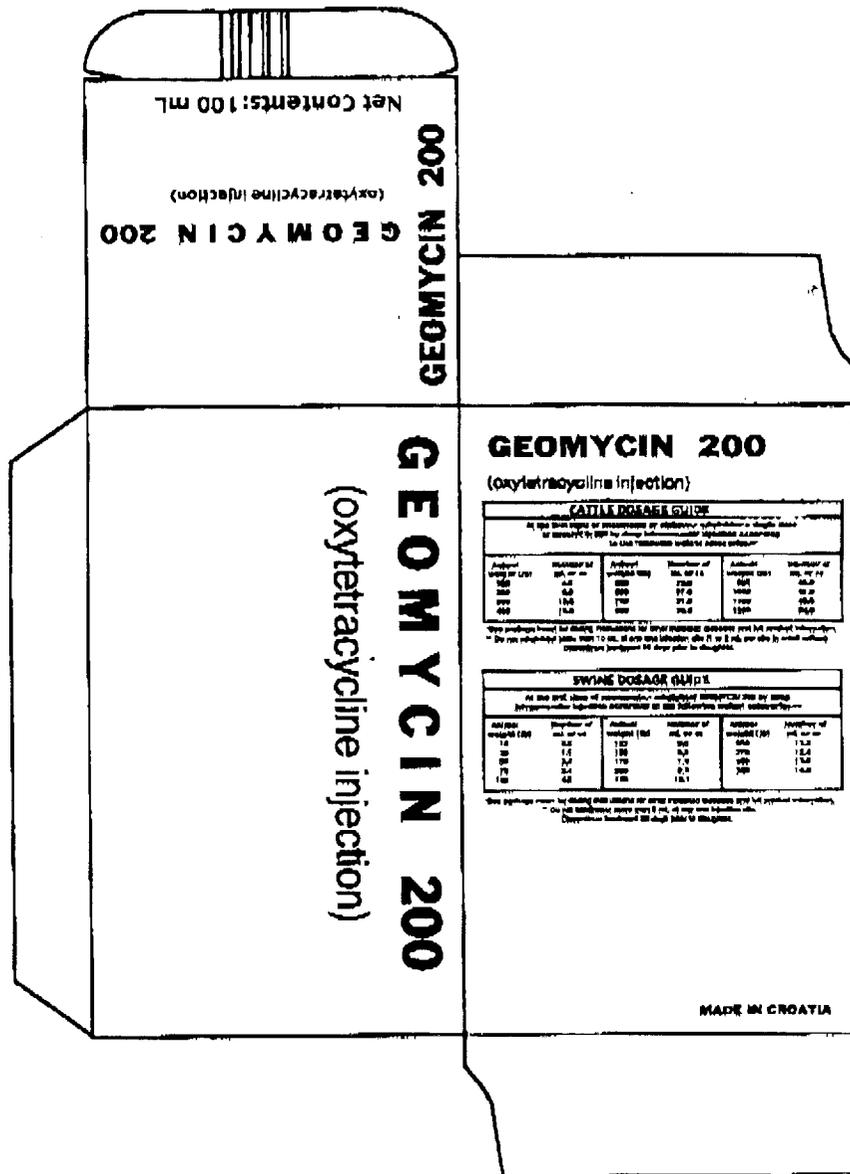


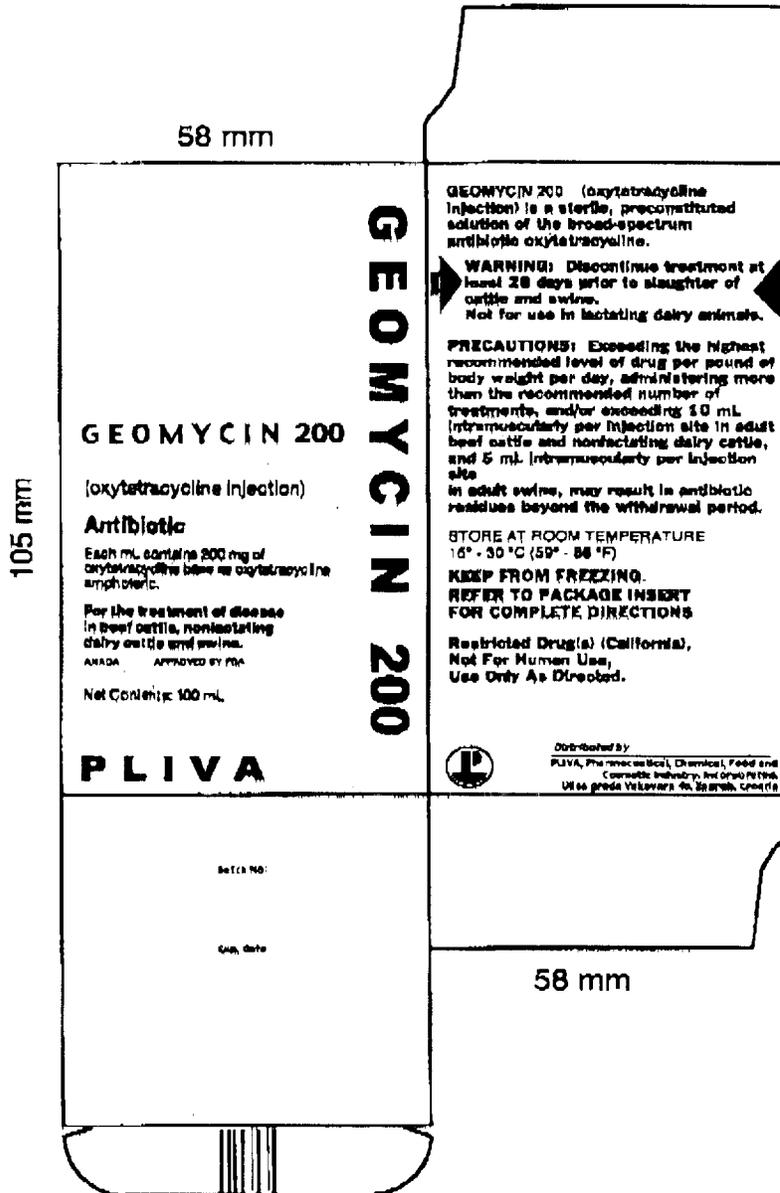
*Pharmaceutical, Chemical, Food and Cosmetic Industry,
Incorporated*

Ulica grada Vukovara 49, 10000 Zagreb, Croatia









SWINE:
A single dose of 2 milligrams of oxytetracycline per pound of body weight (4.5 mL/100 lb) administered intramuscularly is recommended in the treatment of bacterial pneumonia caused by *Pasteurella multocida* in swine, where retreatment is indicated due to secondary conditions or where repeated treatment is necessary.
Place to package insert for complete directions. (See leaflet for complete directions.)
STORE AT ROOM TEMPERATURE: 15-30°C (59-86°F).
KEEP FROM FREEZING.
NOT FOR HUMAN USE. USE ONLY AS DIRECTED.
Restricted Drug (Controlled)

CATTLE:
A single dose of 5 mg of oxytetracycline per pound of body weight (4.5 mL/100 lb) administered intramuscularly is recommended in the treatment of the following conditions: (1) bacterial pneumonia caused by *Pasteurella spp.* (including *Pasteurella multocida*), where retreatment is indicated due to secondary conditions, such as, cattle on the range, or where their repeated treatment is indicated; and (2) infectious bovine keratoconjunctivitis (pink eye) caused by *Moraxella bovis*.
Place to package insert for complete directions. (See leaflet for complete directions.)
STORE AT ROOM TEMPERATURE: 15-30°C (59-86°F).
KEEP FROM FREEZING.
NOT FOR HUMAN USE. USE ONLY AS DIRECTED.
Restricted Drug (Controlled)

SWINE:
A single dose of 2 milligrams of oxytetracycline per pound of body weight (4.5 mL/100 lb) administered intramuscularly is recommended in the treatment of bacterial pneumonia caused by *Pasteurella multocida* in swine, where retreatment is indicated due to secondary conditions or where repeated treatment is necessary.
Place to package insert for complete directions. (See leaflet for complete directions.)
STORE AT ROOM TEMPERATURE: 15-30°C (59-86°F).
KEEP FROM FREEZING.
NOT FOR HUMAN USE. USE ONLY AS DIRECTED.
Restricted Drug (Controlled)

CATTLE:
A single dose of 5 mg of oxytetracycline per pound of body weight (4.5 mL/100 lb) administered intramuscularly is recommended in the treatment of the following conditions: (1) bacterial pneumonia caused by *Pasteurella spp.* (including *Pasteurella multocida*), where retreatment is indicated due to secondary conditions, such as, cattle on the range, or where their repeated treatment is indicated; and (2) infectious bovine keratoconjunctivitis (pink eye) caused by *Moraxella bovis*.
Place to package insert for complete directions. (See leaflet for complete directions.)
STORE AT ROOM TEMPERATURE: 15-30°C (59-86°F).
KEEP FROM FREEZING.
NOT FOR HUMAN USE. USE ONLY AS DIRECTED.
Restricted Drug (Controlled)

GEOMYCIN 200
(Oxytetracycline Injection)
Antibiotic

Each mL contains 200 mg of oxytetracycline base as oxytetracycline amphoteric

For treatment of diseases in beef cattle, nonlactating dairy cattle and swine.

Net Contents: 100 mL

ANADA: ; Approved by FDA

Manufactured/Distributed by:

PLIVA

GEOMYCIN 200
(Oxytetracycline Injection)
Antibiotic

Each mL contains 200 mg of oxytetracycline base as oxytetracycline amphoteric

For treatment of diseases in beef cattle, nonlactating dairy cattle and swine.

Net Contents: 500 mL

ANADA: ; Approved by FDA

Manufactured/Distributed by:

PLIVA

GEOMYCIN 200 (oxytetracycline injection) is a sterile, preconstituted solution of broad spectrum antibiotic, oxytetracycline. Each mL contains 200 mg of oxytetracycline base as amphoteric oxytetracycline and on a w/v basis: 40.0% 2-pyrrolidone, 5.0% povidone, 1.8% magnesium oxide, 0.2% sodium formaldehyde sulfoxylate (as a preservative), monoethanolamine and/or hydrochloric acid as required to adjust pH.

WARNING: Discontinue treatment at least 28 days prior to the slaughter of cattle and swine. Not for use in lactating dairy animals.

GEOMYCIN 200 (oxytetracycline injection) is a sterile, preconstituted solution of broad spectrum antibiotic, oxytetracycline. Each mL contains 200 mg of oxytetracycline base as amphoteric oxytetracycline and on a w/v basis: 40.0% 2-pyrrolidone, 5.0% povidone, 1.8% magnesium oxide, 0.2% sodium formaldehyde sulfoxylate (as a preservative), monoethanolamine and/or hydrochloric acid as required to adjust pH.

WARNING: Discontinue treatment at least 28 days prior to the slaughter of cattle and swine. Not for use in lactating dairy animals.

PRECAUTIONS: Exceeding the highest recommended dosage level of drug per pound of body weight per day, administering more than the recommended number of treatment, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

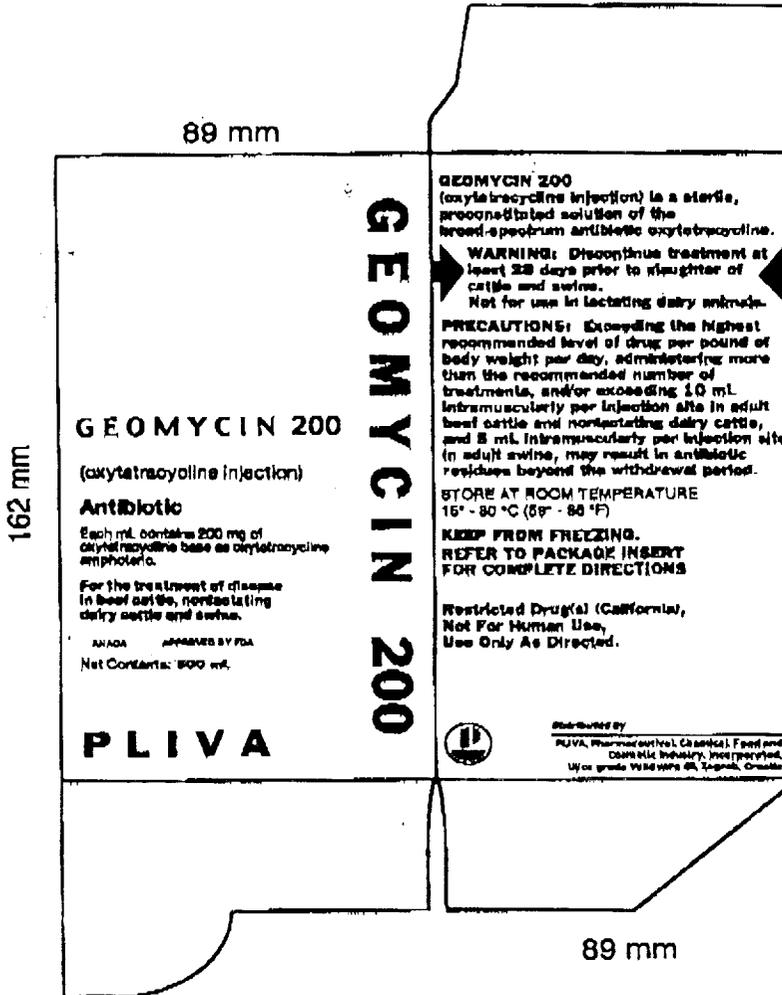
Distributed by:
PLIVA, Pharmaceutical, Chemical, Food and Cosmetic Industry, Incorporated,
Ulica grada Vukovara 44, Zagreb, Croatia

PRECAUTIONS: Exceeding the highest recommended dosage level of drug per pound of body weight per day, administering more than the recommended number of treatment, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

Distributed by:
PLIVA, Pharmaceutical, Chemical, Food and Cosmetic Industry, Incorporated,
Ulica grada Vukovara 44, Zagreb, Croatia

120 x 45 mm

130 x 70 mm



GEOMYCIN 200

(oxytetracycline injection)

Antibiotic

Each mL contains 200 mg of oxytetracycline base as oxytetracycline amphoteric.

For the treatment of disease in beef cattle, non-lactating dairy cattle and swine.

ANADA APPROVED BY FDA
Net Contents: 500 mL.

PLIVA

GEOMYCIN 200

GEOMYCIN 200
(oxytetracycline injection) is a sterile, preservative solution of the broad-spectrum antibiotic oxytetracycline.

WARNING: Discontinue treatment at least 28 days prior to slaughter of cattle and swine.
Not for use in lactating dairy animals.

PRECAUTIONS: Exceeding the highest recommended level of drug per pound of body weight per day, administering more than the recommended number of treatments, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and non-lactating dairy cattle, and 8 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

STORE AT ROOM TEMPERATURE
16° - 80 °C (60° - 80 °F)

KEEP FROM FREEZING.
REFER TO PACKAGE INSERT
FOR COMPLETE DIRECTIONS

Restricted Drug(s) (California),
Not For Human Use,
Use Only As Directed.

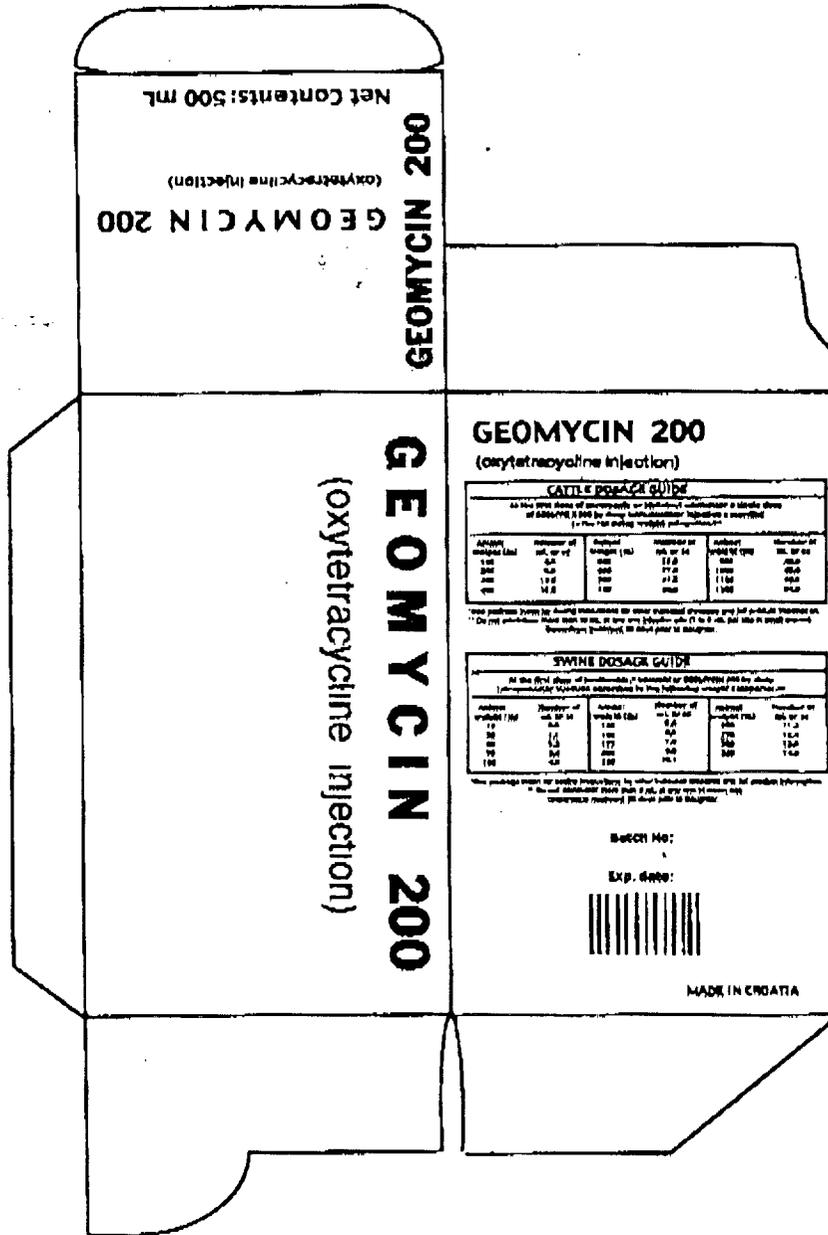


Distributed by
PLIVA, Pharmaceutical Co. and Chemical Feed and Dye Industry, Incorporated,
U.S. grade VEH 500 05, Zagreb, Croatia

162 mm

89 mm

89 mm



Net Contents: 500 mL

GEOMYCIN 200
(oxytetracycline injection)

GEOMYCIN 200
(oxytetracycline injection)

GEOMYCIN 200
(oxytetracycline injection)

CATTLE DOSAGE GUIDE

At the first stage of penicillinase-resistant or penicillin-resistant infections a single dose of 200 mg of Geomycin 200 by deep intramuscular injection is effective. For the full dosage schedule see package insert.

Weight	Number of	Dosage	Number of	Number of
(kg)	injections	(mg)	times per day	days
100	2	200	2	10
200	4	200	2	10
300	6	200	2	10
400	8	200	2	10
500	10	200	2	10

SWINE DOSAGE GUIDE

At the first stage of penicillinase-resistant or penicillin-resistant infections a single dose of 200 mg of Geomycin 200 by deep intramuscular injection is effective. For the full dosage schedule see package insert.

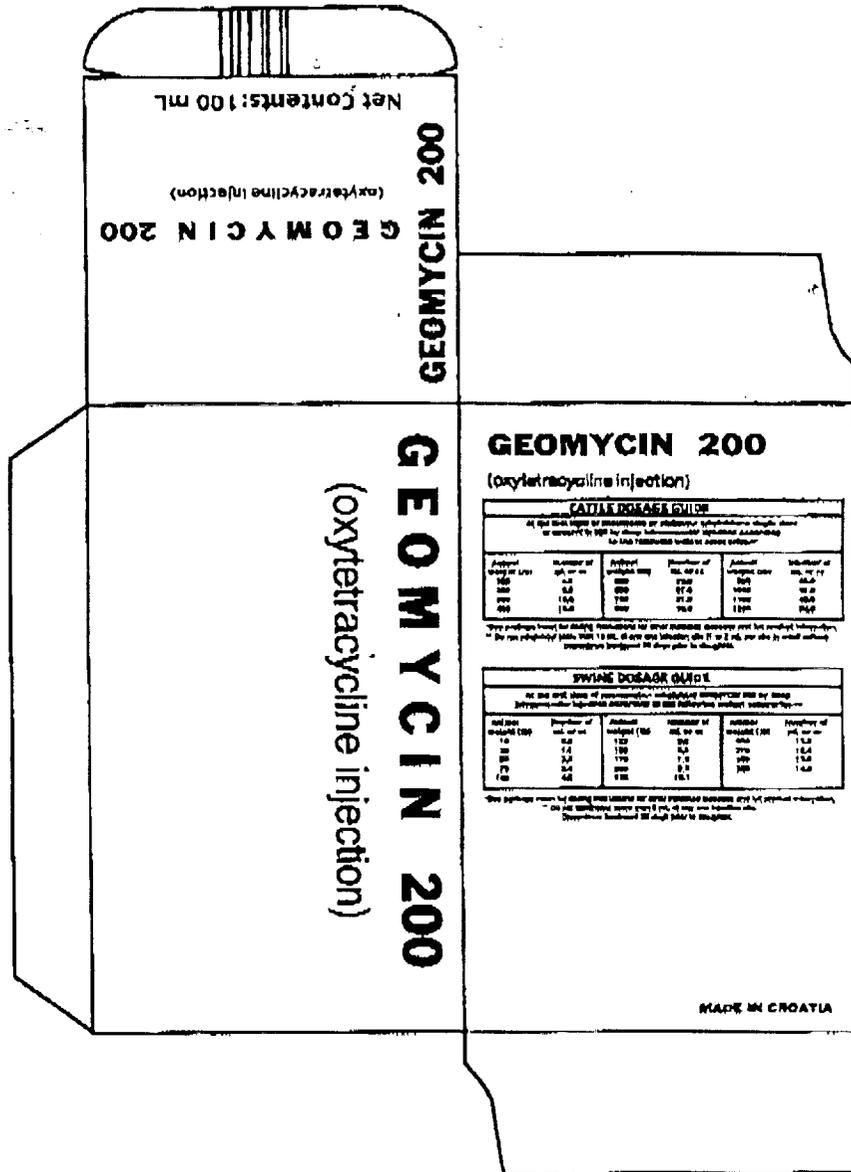
Weight	Number of	Dosage	Number of	Number of
(kg)	injections	(mg)	times per day	days
10	1	100	2	10
20	2	100	2	10
30	3	100	2	10
40	4	100	2	10
50	5	100	2	10

Batch No:

Exp. date:



MADE IN CROATIA



Net Contents: 100 mL
(oxytetracycline injection)
GEOMYCIN 200

GEOMYCIN 200
(oxytetracycline injection)

GEOMYCIN 200
(oxytetracycline injection)

CATTLE DOSEAGE GUIDE
At the first signs of mastitis or other mammary gland infections, consult your veterinarian for proper diagnosis and treatment.

Weight of cow	Number of mL, per day	Injectable (mL)	Number of mL, per day	Injectable (mL)	Number of mL, per day
1000	2.0	200	2.0	200	2.0
1200	2.0	200	2.0	200	2.0
1400	2.0	200	2.0	200	2.0
1600	2.0	200	2.0	200	2.0

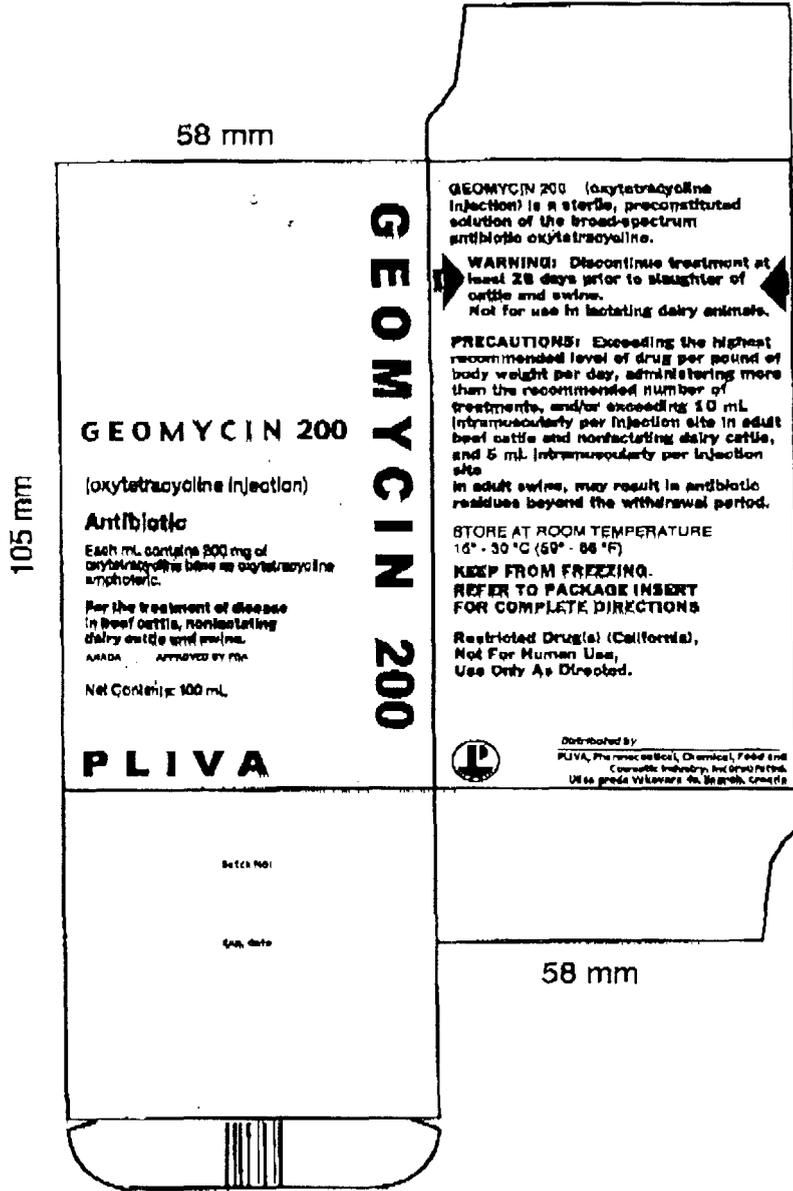
*Very pregnant cows for milking should be given maximum dose and be milked frequently.
** Do not administer to dry cows.

SWINE DOSEAGE GUIDE
At the first signs of mastitis or other mammary gland infections, consult your veterinarian for proper diagnosis and treatment.

Weight of pig	Number of mL, per day	Injectable (mL)	Number of mL, per day	Injectable (mL)	Number of mL, per day
10	0.2	20	0.2	20	0.2
15	0.3	30	0.3	30	0.3
20	0.4	40	0.4	40	0.4
25	0.5	50	0.5	50	0.5

*Do not administer to dry sows.
** Do not administer to piglets.

MADE IN CROATIA



58 mm

105 mm

GEOMYCIN 200

(oxytetracycline injection)

Antibiotic

Each mL contains 200 mg of oxytetracycline base as oxytetracycline anhydrous.

For the treatment of disease in beef cattle, nonlactating dairy cattle and swine.

NADA ... APPROVED BY FDA

Net Content: 100 mL

PLIVA

GEOMYCIN 200

GEOMYCIN 200 (oxytetracycline injection) is a sterile, preconstituted solution of the broad-spectrum antibiotic oxytetracycline.

WARNING: Discontinue treatment at least 28 days prior to slaughter of cattle and swine. Not for use in lactating dairy animals.

PRECAUTIONS: Exceeding the highest recommended level of drug per pound of body weight per day, administering more than the recommended number of treatments, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

STORE AT ROOM TEMPERATURE
16° - 30 °C (60° - 86 °F)

KEEP FROM FREEZING.
REFER TO PACKAGE INSERT FOR COMPLETE DIRECTIONS

Restricted Drug(s) (California),
Not For Human Use,
Use Only As Directed.



Distributed by:
PLIVA, The Pharmaceutical, Chemical, Food and
Cosmetic Industry, Inc. Drug Products,
Ulica grada Vukovara 4a, Zagreb, Croatia

Batch No:

Exp. Date

58 mm

GEOMYCIN RETARD Oxytetracycline Injection	Code: RD-3630/1
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Box label - PFIZER
500 mL

28344

10-4292-00-5

Liquamycin[®] LA-200[®]
 (oxytetracycline injection)

CATTLE DOSAGE GUIDE					
At the first signs of pneumonia or pleuropneumonia, administer a single dose of Liquamycin LA-200 by deep intramuscular injection according to the following weight categories:**					
Animal weight (lb)	Number of mL or cc	Animal weight (lb)	Number of mL or cc	Animal weight (lb)	Number of mL or cc
100	4.5	500	22.5	800	40.5
200	9.0	600	27.0	1000	45.0
300	13.5	700	31.5	1100	49.5
400	18.0	800	36.0	1200	54.0

**See package insert for dosing instructions for other indicated diseases and full product information.
 *Do not administer more than 10 mL at any one injection site (1 to 2 mL per site in small calves).
 Discontinue treatment 28 days prior to slaughter.

SWINE DOSAGE GUIDE					
At the first signs of pneumonia, administer Liquamycin LA-200 by deep intramuscular injection according to the following weight categories:**					
Animal weight (lb)	Number of mL or cc	Animal weight (lb)	Number of mL or cc	Animal weight (lb)	Number of mL or cc
10	0.5	125	6.2	250	11.3
25	1.1	150	7.5	275	12.4
50	2.3	175	8.8	300	13.5
75	3.4	200	10.0	325	14.6
100	4.5	225	11.3		

**See package insert for dosing instructions for other indicated diseases and full product information.
 *Do not administer more than 5 mL at any one injection site.
 Discontinue treatment 28 days prior to slaughter.



0 87219 04697 5

U.S. Pat. No. 4,018,889 MADE IN U.S.A.

4697

Liquamycin[®] LA-200[®]

LA-200[®]

Liquamycin[®] LA-200[®]
 (oxytetracycline injection)

Antibiotic

Each mL contains 200 mg of oxytetracycline base as oxytetracycline amphoteric.

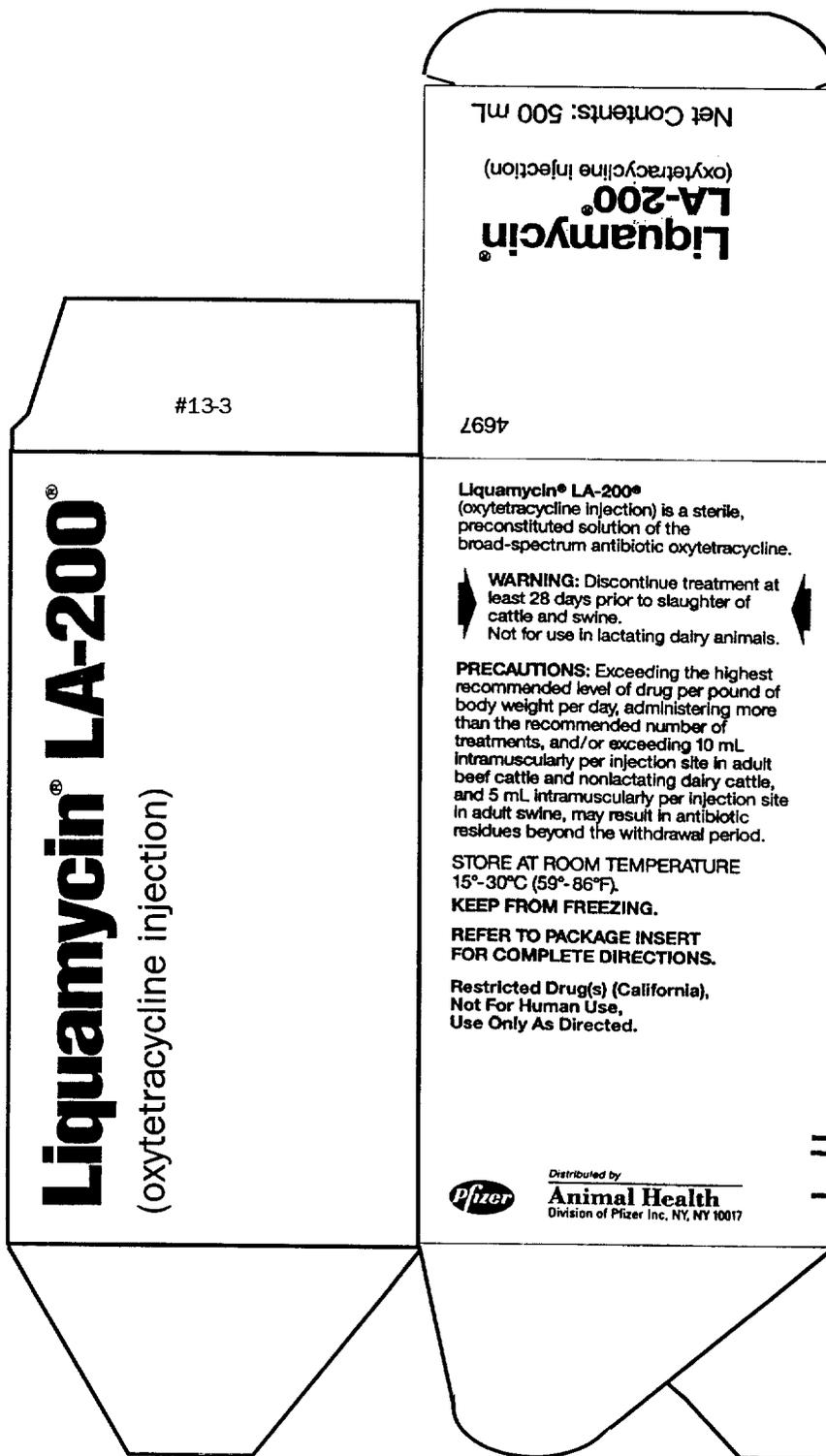
For the treatment of disease in beef cattle, nonlactating dairy cattle and swine.

NADA #113-232, APPROVED BY FDA

Net Contents: 500 mL

pfizer

GEOMYCIN RETARD Oxytetracycline Injection	Code: RD-3630/1
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#13-3

Liquamycin[®] LA-200[®]
 (oxytetracycline injection)

Net Contents: 500 mL

Liquamycin[®] LA-200[®]
 (oxytetracycline injection)

4697

Liquamycin[®] LA-200[®]
 (oxytetracycline injection) is a sterile, preconstituted solution of the broad-spectrum antibiotic oxytetracycline.

WARNING: Discontinue treatment at least 28 days prior to slaughter of cattle and swine.
 Not for use in lactating dairy animals.

PRECAUTIONS: Exceeding the highest recommended level of drug per pound of body weight per day, administering more than the recommended number of treatments, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

STORE AT ROOM TEMPERATURE
 15°-30°C (59°-86°F).

KEEP FROM FREEZING.

REFER TO PACKAGE INSERT FOR COMPLETE DIRECTIONS.

**Restricted Drug(s) (California),
 Not For Human Use,
 Use Only As Directed.**



Distributed by
Animal Health
 Division of Pfizer Inc, NY, NY 10017



69-4690-00-3

LIQUAMYCIN® LA-200®

(oxytetracycline injection)
Antibiotic

Each ml contains 200 mg of oxytetracycline base
as oxytetracycline amphoteric.

3-27-90

**For Use in Beef Cattle,
Nonlactating Dairy Cattle and Swine**
READ ENTIRE BROCHURE CAREFULLY
BEFORE USING THIS PRODUCT

LIQUAMYCIN® LA-200® (oxytetracycline injection) is a sterile, ready-to-use solution for the administration of the broad-spectrum antibiotic oxytetracycline (Terramycin) by injection. Terramycin, discovered by Pfizer scientists, is an antimicrobial agent that is effective in the treatment of a wide range of diseases caused by susceptible gram-positive and gram-negative bacteria.

LIQUAMYCIN® LA-200® administered to cattle or swine for the treatment of bacterial pneumonia at an intramuscular dosage of 9 milligrams of oxytetracycline per pound of body weight has been demonstrated in clinical trials to be as effective as the same dosage of treatments by Terramycin injection at 5 milligrams per pound of body weight.

LIQUAMYCIN® LA-200® does not require refrigeration; however, it is recommended that it be stored at room temperature, 15°-30°C (59°-86°F). The antibiotic activity of oxytetracycline is not appreciably diminished in the presence of body fluids, serum, or exudates.

WARNING

Discontinue treatment at least 28 days prior to slaughter of cattle and swine. Not for use in lactating dairy animals.

PRECAUTIONS

Exceeding the highest recommended dosage level of drug per pound of body weight per day, administering more than the recommended number of treatments, and/or exceeding 10 ml intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 ml intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

Reactions of an allergic or anaphylactic nature, sometimes fatal, have been known to occur in hypersensitive animals following the injection of oxytetracycline. Such adverse reactions can be characterized by signs such as restlessness, erection of hair, muscle trembling; swelling of eyelids, ears, muzzle, anus and vulva (or scrotum and sheath in males); labored breathing, defecation and urination, glassy-eyed appearance, eruption of skin plaques, frothing from the mouth, and prostration. Pregnant animals that recover may subsequently abort. At the first sign of any adverse reaction, discontinue use of this product and administer epinephrine at the recommended dosage levels. Call a veterinarian immediately.

Shock may be observed following intravenous administration, especially where highly concentrated materials are involved. To minimize this occurrence, it is recommended that LIQUAMYCIN® LA-200® be administered slowly by this route.

Shortly after injection, treated animals may have transient hemoglobinuria resulting in darkened urine.

As with all antibiotic preparations, use of this drug may result in overgrowth of nonsusceptible organisms, including fungi. A lack of response by the treated animal, or the development of new signs, may suggest that an overgrowth of nonsusceptible organisms has occurred. If any of these conditions occur, consult your veterinarian.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, it is advisable to avoid giving LIQUAMYCIN® LA-200® in conjunction with penicillin.

STORAGE: Store at room temperature, 15°-30°C (59°-86°F). Keep from freezing.

CARE OF SICK ANIMALS

The use of antibiotics in the management of diseases is based on an accurate diagnosis and an adequate course of treatment. When properly used in the treatment of diseases caused by oxytetracycline-susceptible organisms, most animals that have been treated with LIQUAMYCIN® LA-200® show a noticeable improvement within 24 to 48 hours. It is recommended that the diagnosis and treatment of animal diseases be carried out by a veterinarian. Since many diseases look alike but require different types of treatment, the use of professional veterinary and laboratory services can reduce treatment time, costs, and needless losses. Good housing, sanitation and nutrition are important in the maintenance of healthy animals, and are essential in the treatment of diseased animals.

INDICATIONS

LIQUAMYCIN® LA-200® is intended for use in the treatment of the following diseases in beef cattle, nonlactating dairy cattle and swine when due to oxytetracycline-susceptible organisms:

CATTLE

In cattle, LIQUAMYCIN® LA-200® is indicated in the treatment of pneumonia and shipping fever complex associated with *Pasteurella* spp. and *Hemophilus* spp.; infectious bovine keratoconjunctivitis (pinkeye) caused by *Moraxella bovis*; foot-rot and diphtheria caused by *Fusobacterium necrophorum*; bacterial enteritis (scours) caused by *Escherichia coli*; wooden tongue caused by *Actinobacillus lignieresii*; leptospirosis caused by *Leptospira pomona*; and wound infections and acute metritis caused by strains of staphylococci and streptococci organisms sensitive to oxytetracycline.

SWINE

In swine, LIQUAMYCIN® LA-200® (oxytetracycline injection) is indicated in the treatment of bacterial enteritis (scours, colibacillosis) caused by *Escherichia coli*; pneumonia caused by *Pasteurella multocida*; and leptospirosis caused by *Leptospira pomona*.

In sows, LIQUAMYCIN® LA-200® is indicated as an aid in the control of infectious enteritis (baby pig scours, colibacillosis) in suckling pigs caused by *Escherichia coli*.

DOSAGE

LIQUAMYCIN® LA-200® is to be administered by intramuscular or intravenous injection to beef cattle and nonlactating dairy cattle.

A single dosage of 9 milligrams of LIQUAMYCIN® LA-200® per pound of body weight administered intramuscularly is recommended in the treatment of the following conditions: 1) bacterial pneumonia caused by *Moraxella bovis* (shipping fever) in calves and yearlings where re-treatment is impractical due to husbandry conditions, such as cattle on range or where their repeated restraint is inadvisable; 2) infectious bovine keratoconjunctivitis (pinkeye) caused by *Moraxella bovis*.

LIQUAMYCIN® LA-200® can also be administered by intravenous or intramuscular injection at a level of 3 to 5 milligrams of oxytetracycline per pound of body weight per day. In the treatment of severe foot-rot and advanced cases of other indicated diseases, a dosage level of 5 milligrams per pound of body weight per day is recommended. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment.

SWINE

In swine, a single dosage of 9 milligrams of LIQUAMYCIN® LA-200® per pound of body weight administered intramuscularly is recommended in the treatment of bacterial enteritis caused by *Escherichia coli* in suckling pigs where re-treatment is impractical due to husbandry conditions or where repeated restraint is inadvisable.

LIQUAMYCIN® LA-200® can also be administered by intramuscular injection at a level of 3 to 5 milligrams of oxytetracycline per pound of body weight per day. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment.

For sows, administer once intramuscularly 3 milligrams of oxytetracycline per pound of body weight approximately 8 hours before farrowing or immediately after completion of farrowing.

For swine weighing 25 lb of body weight and under, LIQUAMYCIN® LA-200® should be administered undiluted for treatment at 9 mg/lb but should be administered diluted for treatment at 3 or 5 mg/lb.

GEOMYCIN RETARD Oxytetracycline Injection	Code: RD-3630/1
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Package Insert - PFIZER


69-4690-00-4

LIQUAMYCIN®
LA-200®

 (oxytetracycline injection)
 Antibiotic

 Each mL contains 200 mg of oxytetracycline base
 as oxytetracycline anhydrous.

**For Use in Beef Cattle,
 Nonlactating Dairy Cattle and Swine**
**READ ENTIRE BROCHURE CAREFULLY
 BEFORE USING THIS PRODUCT**

LIQUAMYCIN® LA-200® (oxytetracycline injection) is a sterile, ready-to-use solution for the administration of the broad-spectrum antibiotic oxytetracycline (Terramycin) by injection. Terramycin, discovered by Pfizer scientists, is an antimicrobial agent that is effective in the treatment of a wide range of diseases caused by susceptible gram-positive and gram-negative bacteria.

LIQUAMYCIN® LA-200® administered to cattle or swine for the treatment of bacterial pneumonia at an intramuscular dosage of 9 milligrams of oxytetracycline per pound of body weight, has been demonstrated in clinical trials to be as effective as two or three repeated, daily treatments of Terramycin® Injectable at 3 to 5 milligrams per pound of body weight.

LIQUAMYCIN® LA-200® does not require refrigeration; however, it is recommended that it be stored at room temperature, 15°-30°C (59°-86°F). The antibiotic activity of oxytetracycline is not appreciably diminished in the presence of body fluids, serum, or exudates.

WARNING

Discontinue treatment at least 28 days prior to slaughter of cattle and swine. Not for use in lactating dairy animals.

PRECAUTIONS

Exceeding the highest recommended dosage level of drug per pound of body weight per day, administering more than the recommended number of treatments, and/or exceeding 10 mL intramuscularly per injection site in adult beef cattle and nonlactating dairy cattle, and 5 mL intramuscularly per injection site in adult swine, may result in antibiotic residues beyond the withdrawal period.

Reactions of an allergic or anaphylactic nature, sometimes fatal, have been known to occur in hypersensitive animals following the injection of oxytetracycline. Such adverse reactions can be characterized by signs such as restlessness, erection of hair, muscle trembling; swelling of eyelids, ears, muzzle, anus and vulva (or scrotum and sheath in males); labored breathing, defecation and urination, glassy-eyed appearance, eruption of skin plaques, frothing from the mouth, and prostration. Pregnant animals that recover may subsequently abort. At the first sign of any adverse reaction, discontinue use of this product and administer epinephrine at the recommended dosage levels. Call a veterinarian immediately.

Shock may be observed following intravenous administration, especially where highly concentrated materials are involved. To minimize this occurrence, it is recommended that LIQUAMYCIN® LA-200® be administered *slowly* by this route.

Shortly after injection, treated animals may have transient hemoglobinuria resulting in darkened urine.

As with all antibiotic preparations, use of this drug may result in overgrowth of nonsusceptible organisms, including fungi. A lack of response by the treated animal, or the development of new signs, may suggest that an overgrowth of nonsusceptible organisms has occurred. If any of these conditions occur, consult your veterinarian.

Since bacteriostatic drugs may interfere with the bactericidal action of penicillin, it is advisable to avoid giving LIQUAMYCIN® LA-200® in conjunction with penicillin.

STORAGE: Store at room temperature, 15°-30°C (59°-86°F). Keep from freezing.

CARE OF SICK ANIMALS

The use of antibiotics in the management of diseases is based on an accurate diagnosis and an adequate course of treatment. When properly used in the treatment of diseases caused by oxytetracycline-susceptible organisms, most animals that have been treated with LIQUAMYCIN® LA-200® show a noticeable improvement within 24 to 48 hours. It is recommended that the diagnosis and treatment of animal diseases be carried out by a veterinarian. Since many diseases look alike but require different types of treatment, the use of professional veterinary and laboratory services can reduce treatment time, costs, and needless losses. Good housing, sanitation and nutrition are important in the maintenance of healthy animals, and are essential in the treatment of diseased animals.

INDICATIONS

LIQUAMYCIN® LA-200® is intended for use in the treatment of the following diseases in beef cattle, nonlactating dairy cattle and swine when due to oxytetracycline-susceptible organisms:

CATTLE

In cattle, LIQUAMYCIN® LA-200® is indicated in the treatment of pneumonia and shipping fever complex associated with *Pasteurella* spp. and *Hemophilus* spp.; infectious bovine keratoconjunctivitis (pinkeye) caused by *Moraxella bovis*; foot-rot and diphtheria caused by *Fusobacterium necrophorum*; bacterial enteritis (scours) caused by *Escherichia coli*; wooden tongue caused by *Actinobacillus lignieresii*; leptospirosis caused by *Leptospira pomona*; and wound infections and acute metritis caused by strains of staphylococci and streptococci organisms sensitive to oxytetracycline.

SWINE

In swine, LIQUAMYCIN® LA-200® (oxytetracycline injection) is indicated in the treatment of bacterial enteritis (scours, colibacillosis) caused by *Escherichia coli*; pneumonia caused by *Pasteurella multocida*; and leptospirosis caused by *Leptospira pomona*.

In sows, LIQUAMYCIN® LA-200® is indicated as an aid in the control of infectious enteritis (baby pig scours, colibacillosis) in suckling pigs caused by *Escherichia coli*.

DOSAGE
CATTLE

LIQUAMYCIN® LA-200® is to be administered by intramuscular or intravenous injection to beef cattle and nonlactating dairy cattle.

A single dosage of 9 milligrams of LIQUAMYCIN® LA-200® per pound of body weight administered *intramuscularly* is recommended in the treatment of the following conditions: 1) bacterial pneumonia caused by *Pasteurella* spp. (shipping fever) in calves and yearlings, where re-treatment is impractical due to husbandry conditions, such as cattle on range, or where their repeated restraint is inadvisable; 2) infectious bovine keratoconjunctivitis (pinkeye) caused by *Moraxella bovis*.

LIQUAMYCIN® LA-200® can also be administered by intravenous or intramuscular injection at a level of 3 to 5 milligrams of oxytetracycline per pound of body weight per day. In the treatment of severe foot-rot and advanced cases of other indicated diseases, a dosage level of 5 milligrams per pound of body weight per day is recommended. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment.

SWINE

In swine a single dosage of 9 milligrams of LIQUAMYCIN® LA-200® per pound of body weight administered *intramuscularly* is recommended in the treatment of bacterial pneumonia caused by *Pasteurella multocida* in swine, where re-treatment is impractical due to husbandry conditions or where repeated restraint is inadvisable.

LIQUAMYCIN® LA-200® can also be administered by intramuscular injection at a level of 3 to 5 milligrams of oxytetracycline per pound of body weight per day. Treatment should be continued 24 to 48 hours following remission of disease signs; however, not to exceed a total of four consecutive days. Consult your veterinarian if improvement is not noted within 24 to 48 hours of the beginning of treatment.

For sows, administer once intramuscularly 3 milligrams of oxytetracycline per pound of body weight approximately 8 hours before farrowing or immediately after completion of farrowing.

For swine weighing 25 lb of body weight and under, LIQUAMYCIN® LA-200® should be administered undiluted for treatment at 9 mg/lb but should be administered diluted for treatment at 1 or 5 mg/lb.

<p>GEOMYCIN RETARD Oxytetracycline Injection</p>	Code: RD-3630/1
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DOSAGE (continued)

Body Weight	9 MG/LB DOSAGE		3 OR 5 MG/LB DOSAGE	
	Volume of UNBLENDED LIQUAMYCIN® LA-200®		Volume of BLENDED LIQUAMYCIN® LA-200®	
	9 mg/lb		3 mg/lb	Dilution* 5 mg/lb
5 lb	0.2 mL	0.6 mL	1.7	1.0 mL
10 lb	0.5 mL	0.9 mL	1.5	1.5 mL
25 lb	1.1 mL	1.5 mL	1.3	2.5 mL

*To prepare dilutions, add one part LIQUAMYCIN® LA-200® to three, five or seven parts of sterile water, or 5 percent dextrose solution as indicated; the diluted product should be used immediately.

DIRECTIONS FOR USE

LIQUAMYCIN® LA-200® is intended for use in the treatment of disease due to oxytetracycline-susceptible organisms in beef cattle, nonlactating dairy cattle and swine. A thoroughly cleaned, sterile needle and syringe should be used for each injection (needles and syringes may be sterilized by boiling in water for 15 minutes). In cold weather, LIQUAMYCIN® LA-200® should be warmed to room temperature before administration to animals. Before withdrawing the solution from the bottle, disinfect the rubber cap on the bottle with suitable disinfectant, such as 70 percent alcohol. The injection site should be similarly cleaned with the disinfectant. Needles of 16 to 18 gauge and 1 to 1½ inches long are adequate for intramuscular injections. Needles 2 to 3 inches are recommended for intravenous use.

INTRAMUSCULAR ADMINISTRATION

Intramuscular injections should be made by directing the needle of suitable gauge and length into the fleshy part of a thick muscle such as in the rump, hip, or thigh regions; avoid blood vessels and major nerves. Before injecting the solution, pull back gently on the plunger. If blood appears in the syringe, a blood vessel has been entered; withdraw the needle and select a different site. No more than 10 mL should be injected intramuscularly at any one site in adult beef cattle and nonlactating dairy cattle, and not more than 5 mL per site in adult swine; rotate injection sites for each succeeding treatment. The volume administered per injection site should be reduced according to age and body size so that 1 to 2 mL per site is injected in small calves.

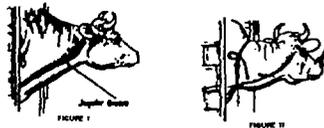
INTRAVENOUS ADMINISTRATION

LIQUAMYCIN® LA-200® (oxytetracycline injection) may be administered intravenously to beef cattle and nonlactating dairy cattle. As with all highly concentrated materials, LIQUAMYCIN® LA-200® should be administered slowly by the intravenous route.

Preparation of the Animal for Injection:

1. Approximate location of vein. The jugular vein runs in the jugular groove on each side of the neck from the angle of the jaw to just above the brisket and slightly above and to the side of the windpipe. (See Fig. 1).
2. Restraint. A stanchion or chute is ideal for restraining the animal. With a halter, rope, or cattle leader (nose tongs), pull the animal's head around the side of the stanchion, cattle chute, or post in such a manner to form a bow in the neck (See Fig. 1), then snub the head securely to prevent movement. By forming the bow in the neck, the outside curvature of the bow tends to expose the jugular vein and make it easily accessible. Caution: Avoid restraining the animal with a tight rope or halter around the throat or upper neck which might impede blood flow. Animals that are down present no problem so far as restraint is concerned.

3. Clip hair in area where injection is to be made (over the vein in the upper third of the neck). Clean and disinfect the skin with alcohol or other suitable antiseptic.



Entering the Vein and Making the Injection:

1. Raise the vein. This is accomplished by tying the choke rope tightly around the neck close to the shoulder. The rope should be tied in such a way that it will not come loose and so that it can be untied quickly by pulling the loose end (See Fig. 1). In thick-necked animals, a block of wood placed in the jugular groove between the rope and the hide will help considerably in applying the desired pressure at the right point. The vein is a soft flexible tube through which blood flows back to the heart. Under ordinary conditions it cannot be seen or felt with the fingers. When the flow of blood is blocked at the base of the neck by the choke rope, the vein becomes enlarged and rigid because of the back pressure. If the choke rope is sufficiently tight, the vein stands out and can be easily seen and felt in thin-necked animals. As a further check in identifying the vein, tap it with the fingers in front of the choke rope. Pulsations that can be seen or felt with the fingers in front of the point being tapped will confirm the fact that the vein is properly distended. It is impossible to put the needle into the vein unless it is distended. Experienced operators are able to raise the vein simply by hand pressure, but the use of a choke rope is more certain.
2. Inserting the needle. This involves three distinct steps. First, insert the needle through the hide. Second, insert the needle into the vein. This may require two or three attempts before the vein is entered. The vein has a tendency to roll away from the point of the needle, especially if the needle is not sharp. The vein can be steadied with the thumb and finger of one hand. With the other hand, the needle point is placed directly over the vein, slanting it so that its direction is along the length of the vein, either toward the head or toward the heart. Properly positioned this way, a quick thrust of the needle will be followed by a spurt of blood through the needle, which indicates that the vein has been entered. Third, once in the vein, the needle should be inserted along the length of the vein all the way to the hub, exercising caution to see that the needle does not penetrate the opposite side of the vein. Continuous steady flow of blood through the needle indicates that the needle is still in the vein. If blood does not flow continuously, the needle is out of the vein (or clogged) and another attempt must be made. If difficulty is encountered, it may be advisable to use the vein on the other side of the neck.
3. While the needle is being placed in proper position in the vein, an assistant should get the medication ready so that the injection can be started without delay after the vein has been entered.
4. Making the injection. With the needle in position as indicated by continuous flow of blood, release the choke rope by a quick pull on the free end. This is essential—the medication cannot flow into the vein while it is blocked. Immediately connect the syringe containing LIQUAMYCIN® LA-200® (oxytetracycline injection) to the needle and slowly depress the plunger. If there is resistance to depression of the plunger, this indicates that the needle has slipped out of the vein (or is clogged) and the procedure will have to be repeated. Watch for any swelling under the skin near the needle, which would indicate that the medication is not going into the vein. Should this occur, it is best to try the vein on the opposite side of the neck.
5. Removing the needle. When injection is complete, remove needle with straight pull. Then apply pressure over area of injection momentarily to control any bleeding through needle puncture, using cotton soaked in alcohol or other suitable antiseptic.

**LIVESTOCK DRUG, NOT FOR HUMAN USE.
RESTRICTED DRUG, USE ONLY AS DIRECTED.**



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69-4690-00-4

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