

AUG 9 1998

FREEDOM OF INFORMATION SUMMARY

SUPPLEMENTAL NEW ANIMAL DRUG APPLICATION

NADA 141-079

IVOMEC® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle

“... for the treatment and control of adult *Strongyloides papillosus* and adult *Trichostrongylus longispicularis*.”

Sponsored by

MERIAL LIMITED

Date of Approval:

NADA 141-079

FOIS 1

I. GENERAL INFORMATION

NADA Number: 141-079

Sponsor: Merial Limited
2100 Ronson Rd.
Iselin, New Jersey 08830-3077

Established Name: eprinomectin

Trade Name: IVOMEK® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle

Marketing Status: Over-the-counter

Effect of Supplement: This supplemental application adds indications for the treatment and control of adult *Strongyloides papillosus* and adult *Trichostrongylus longispicularis* and removes the age restriction for use in cattle under 8 weeks of age.

Previously registered indications are discussed in the FOI SUMMARY for NADA 141-079, approved April 16, 1997, and in the FEDERAL REGISTER (62 FR 33997; June 24, 1997).

II. INDICATIONS FOR USE

For the treatment and control of the following parasites:

GASTROINTESTINAL ROUNDWORMS:

<i>Haemonchus placei</i>	(adults and L4)
<i>Ostertagia ostertagi</i>	(adults and L4, including inhibited L4)
<i>Trichostrongylus axei</i>	(adults and L4)
<i>Trichostrongylus colubriformis</i>	(adults and L4)
<i>Trichostrongylus longispicularis</i>	(adults only)
<i>Cooperia oncophora</i>	(adults and L4)
<i>Cooperia punctata</i>	(adults and L4)
<i>Cooperia surnabada</i>	(adults and L4)
<i>Nematodirus helvetianus</i>	(adults and L4)
<i>Oesophagostomum radiatum</i>	(adults and L4)
<i>Bunostomum phlebotomum</i>	(adults and L4)
<i>Strongyloides papillosus</i>	(adults only)
<i>Trichuris spp</i>	(adults only)

LUNGWORMS:

<i>Dictyocaulus viviparus</i>	(adults and L4)
-------------------------------	-----------------

CATTLE GRUBS (all parasitic stages):*Hypoderma lineatum**Hypoderma bovis***LICE:***Damalinea bovis**Linognathus vituli**Haematopinus eurysternus**Solenopotes capillatus***MANGE MITES:***Chorioptes bovis**Sarcoptes scabiei***HORN FLIES:***Haematobia irritans*

Persistent Activity: IVOMEK® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infections and to protect cattle from re-infection with *Dictyocaulus viviparus* for 21 days after treatment and *Haematobia irritans* for 7 days after treatment.

III. DOSAGE FORM, ROUTE OF ADMINISTRATION, AND DOSAGE

- A. Dosage Form: IVOMEK® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle is available in 250-mL, 1-liter, 2.5-liter, and 5-liter polyethylene containers. Each milliliter contains 5 mg eprinomectrin.
- B. Route of Administration: IVOMEK® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle should be administered topically to the skin along the midline of the back.
- C. Approved Dose: 500 mcg eprinomectrin/kg body weight (1 mL/10 kg or 22 lb BW).

IV. EFFECTIVENESS

Data supporting the effectiveness of previously approved indications are summarized in the FOI SUMMARY for NADA 141-079 (62 FR 33997; June 24, 1997).

- A. Type of Study: Three dose confirmation studies in cattle with natural nematode infections were conducted by the following investigators:

Dr. T. A. Yazwinski
University of Arkansas
Fayetteville, AR 72701

Dr. R. E. Plue
Merck Research Laboratories
Fulton, MO 65251

Dr. E. G. Johnson
Johnson Research
Parma, ID 83660

B. General Design

1. Purpose: To confirm the efficacy of eprinomectin administered topically at 500 mcg/kg against natural endoparasite infections.
2. Animals and Housing: Each study had 10 eprinomectin-treated and 10 vehicle-treated cattle. All animals were 4 to 12 months of age, 102 to 305 kg body weight, and individually housed. Both beef and dairy breeds were used.
3. Infections: Animals were naturally infected by grazing contaminated pasture as confirmed by fecal egg counts. In the 14 days prior to treatment, housing conditions were designed to preclude further nematode exposure.
4. Dosage Form, Dose, and Route of Administration: On Day 0, a single dose of a non-aqueous solution of 5 mg eprinomectin per mL was applied to each animal's back (withers to tailhead) at a rate of 500 mcg eprinomectin per kg body weight. Control animals were treated similarly with 1 mL vehicle per 10 kg body weight.
5. Parameters Measured: Cattle were necropsied at Day 14 or 15 and gastrointestinal contents (5% minimum) were inspected for nematode presence.

C. Results: Results are summarized below in Table 4.1.

Table 4.1. Nematode count data for cattle treated with eprinomectin at 500 mcg/kg.

Study Number	Nematode	Arithmetic Mean Count		
		Control	Eprinomectin	% Efficacy
ASR 15112	<i>Trichostrongylus longispicularis</i>	100	0	100
ASR 15199	<i>Strongyloides papillosus</i>	14	0	100
ASR 15201	<i>Strongyloides papillosus</i>	46	0	100

D. Adverse Reactions: There were no adverse reactions to treatment.

- E. Conclusions: The data demonstrate that IVOMEC® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle is safe and effective for the control of infections of adult *Strongyloides papillosus* and adult *Trichostrongylus longispicularis* 500 mcg eprinomectin/kg body weight.

V. ANIMAL SAFETY

Data supporting the target animal safety of IVOMEK® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle are summarized in the FOI SUMMARY for NADA 141-079 (62 FR 33997; June 24, 1997).

- A. Type of Study: The safety of a single administration of eprinomectin at 500 mcg/kg (recommended dose) or 1500 mcg/kg was evaluated in neonatal calves by:

Dr. B. N. Kunkle
Merck Research Laboratories
Fulton, MO 65251

B. General Design

1. Purpose: To investigate the toxicity of eprinomectin in neonatal calves.
 2. Animals and Housing: Twenty-one male and female crossbred beef calves, aged 24 to 48 hours and weighing 19.2 to 46.0 kg on the day of treatment, were housed individually.
 3. Dosage Form, Dose, and Route of Administration: On Day 0, animals received a single dose of a non-aqueous solution of 5 mg eprinomectin per mL along the back (withers to tailhead) at a dose rate of either 500 mcg/kg or 1500 mcg/kg. Control animals were treated similarly with vehicle at 3 mL per 10 kg.
 4. Parameters Measured: Clinical examinations were conducted daily from Day 0 (pretreatment) to Day 10. Blood samples were collected for hematology and blood chemistry on Days 0 (pretreatment), 1, 4, and 10.
- C. Results: Certain clinical pathology variables had significant ($p < 0.10$) interactions of treatment and sampling day or significant ($p < 0.10$) differences between treatment groups; however, all values approximated those reported for untreated neonatal calves under the same conditions as the trial animals. Abnormal physical findings such as diarrhea, swollen umbilicus, and lacrimal secretion were not considered unusual in neonatal calves and were not attributable to use of eprinomectin.
- D. Conclusions: Topical administration of eprinomectin at 500 mcg/kg BW is safe when used in neonatal calves under the approved conditions of use specified in the labeling.

VI. HUMAN SAFETY

Data supporting the human food safety of IVOMEK[®] EPRINEX[™] (eprinomectin) Pour-On for Beef and Dairy Cattle are summarized in the FOI SUMMARY for NADA 141-079 (62 FR 33997; June 24, 1997).

Based on a battery of toxicology tests, an Acceptable Daily Intake (ADI) of 10 mcg/kg body weight/day was calculated. A portion of the ADI (0.4 mcg/kg body weight/day) was reserved for milk and yielded a milk safe concentration of 16 ppb. The rest of the ADI (9.6 mcg/kg body weight/day) was used in the calculation of Safe Concentrations for total eprinomectin-related residues of 1.92 ppm in muscle, 5.76 ppm in liver, 11.52 ppm in kidney, and 11.52 ppm in fat. Metabolism studies in cattle along with quantitation of a marker residue in radiolabeled milk and tissues established tolerances of 12 ppb and 4.8 ppm for the B_{1a} component of eprinomectin (the marker residue) in milk and liver (the target tissue), respectively.

Based on the milk residue data from the radiotracer studies, a zero milk discard has been established for the use of IVOMEK[®] EPRINEX[™] (eprinomectin) Pour-On for Beef and Dairy Cattle. There was no pre-slaughter withdrawal time required for edible tissues from the results of marker residue depletion studies in adult cattle and preruminating calves, following a single topical application of the product at a dose rate of 500 mcg/kg animal body weight (1 mL/10 kg body weight).

As part of the approval of this supplement, the Agency has taken the opportunity to update the human food safety information on this product and to codify an Acceptable Daily Intake (ADI) of 10 mcg/kg body weight/day, and a tolerance of 100 parts per billion (ppb) for residues of eprinomectin B_{1a} in cattle muscle. This value is consistent with the data for residues found in muscle under the conditions of use for the pour-on product and will not jeopardize the approval of the established withdrawal time for the pour-on product. The 100 ppb value also harmonizes the tolerance for meat with internationally accepted Maximum Residue Level (MRL) values.

VII. AGENCY CONCLUSIONS

The data submitted in support of this supplemental NADA satisfy the requirements of section 512 of the Federal Food, Drug and Cosmetic Act and 21 CFR Part 514 of the implementing regulations. The data demonstrate that IVOMEK® EPRINEX™ (eprinomectrin) Pour-On for Beef and Dairy Cattle is safe and effective for the treatment and control of infections of adult *Strongyloides papillosus* and adult *Trichostrongylus longispicularis*, and that the current age restriction may be removed.

As described in Section VI, a tolerance of 100 parts per billion (ppb) for residues of eprinomectin B_{1a} in cattle muscle is established and the ADI is codified at 10 mcg/kg body weight/day.

Adequate directions for use have been written for the layman, and the conditions for use prescribed on the labeling are likely to be followed in practice. Therefore, the Center for Veterinary Medicine (CVM) has concluded that this product shall retain over-the-counter marketing status.

In accordance with 21 CFR 514.106(b)(2)(v) & (ix), this is a Category II change that did not require a reevaluation of the safety or effectiveness data in the parent application.

In accordance with 21 CFR 25.33(a)(1) & (7), this action qualifies for a categorical exclusion from the requirement to prepare an environmental assessment.

Under Section 512(c)(2)(F)(iii) of the Federal Food, Drug, and Cosmetic Act, this approval qualifies for THREE years of marketing exclusivity beginning on the date of approval because the supplemental application contains substantial evidence of the effectiveness of the drug involved, any studies of animal safety, or, in the case of food-producing animals, human food safety studies (other than bioequivalence or residue studies) required for the approval of the application and conducted or sponsored by the applicant. The THREE years of marketing exclusivity applies only to the new indications for which the supplemental application was approved.

IVOMEK® EPRINEX™ (eprinomectin) Pour-On for Beef and Dairy Cattle is under U.S. patent numbers 4,427,663 and 5,602,107 which expire on March 16, 2002, and May 10, 2013, respectively.

APPENDIX I: APPROVED LABELING

Facsimile labeling components are provided for the package outsert, bottle, and carton for each of the 250-mL, 1-liter, 2.5-liter, and 5-liter pack sizes.

Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gold)
- Pantone 116 (Yellow)

- Gradation of Pantone 289 (Blue) into Pantone 300 (Blue)
- Gradation of Pantone 300 (Blue) into Pantone 289 (Blue)

Product 30252

ivomec[®]

Eprinex[™]

(eprinomectin)

Pour-On for Beef and Dairy Cattle

Parasiticide

Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites

Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Contains 100 Doses (550 lb)

1AADA 141-079, Approved by the FDA

2.5L (84.5 fl oz)



ivomec

Eprinex[™]

Pour-On for Beef and Dairy Cattle

This topically applied formulation of IVOMEC EPRINEX Pour-On delivers highly effective internal and external parasite control in one application.

PRECAUTIONS:

This product is for topical application only. Do not administer orally or by injection.

Do not apply to areas of the backline covered with mud or manure.

IVOMEC EPRINEX Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

ENVIRONMENTAL SAFETY:

Studies indicate that when eprinomectin comes in contact with the soil it readily and tightly binds to the soil and becomes inactive. Free eprinomectin may adversely affect fish and certain aquatic organisms. Do not contaminate water by direct application or by the improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration.

STORAGE CONDITIONS:

Store pack in the carton to protect from light and at temperatures up to 66°F/30°C. Storage at temperatures up to 104°F/40°C is permitted for a short period of time, however such exposure should be minimized.



Hologram area:
(1/4"W x 1/4"H)

Product
30252

2.5L (84.5 fl oz)
Contains 5 mg eprinomectin/mL
Pour-On for Beef and Dairy Cattle
Eprinex
(eprinomectin)
ivomec

Product 30252

ivomec
Eprinex
(eprinomectin)
Pour-On for Beef and Dairy Cattle

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INDICATIONS:

IVOMEC EPRINEX Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms (21 days of control), grubs, sucking and biting lice, chorioptic and sarcoptic mange mites, and horn flies (7 days of control) in beef and dairy cattle of all ages, including lactating dairy cattle.

See package insert for complete indications and use directions.

USE CONDITIONS:

Varying weather conditions, including rainfall, do not affect the efficacy of IVOMEC EPRINEX Pour-On.

DOSAGE:

The dose rate is 1 mL/10 kg (22 lb) of body weight. The product should be applied topically along the backline in a narrow strip extending from the withers to the tailhead.

ADMINISTRATION:

Connect the dosing gun and draw-off tubing to the collapsible pack as follows:

Attach the open end of the draw-off tubing to an appropriate dosing gun. Attach the draw-off tubing to the cap with the stem that is included in the pack. Replace the shipping cap with the cap having the draw-off tubing.

Gently prime the dosing gun, checking for leaks. Follow the dosing gun manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing gun and draw-off tubing.

ivomec
Eprinex
(eprinomectin)
Pour-On for Beef and Dairy Cattle



ANIMAL SAFETY:

Tolerance and toxicity studies have demonstrated the margin of safety for eprinomectin in cattle. In toxicity studies and a range of 3 times the recommended dose had no adverse effects on neonatal calves and application of up to 5 times the recommended dose 3 times at 7 day intervals had no adverse effects on 6 week old calves. In the tolerance study, one of 6 cattle treated once at 10 times the recommended dose showed clinical signs of methiasis. Application of 3 times the recommended dose had no adverse effect on bleeding performance of cows or bulls.

Residue Information: When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required; therefore, meat and milk from cattle treated with IVOMEC EPRINEX Pour-On may be used for human consumption at any time following treatment.

WARNING:

Keep this and all drugs out of the reach of children.

NOT FOR USE IN HUMANS.

As with any topical medication intended for treatment of animals, skin contact should be avoided. If accidental skin contact occurs, wash immediately with soap and water. If accidental eye exposure occurs, flush eyes immediately with water. The material safety data sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS or for assistance, contact the Merck National Service Center at 1-800-672-6372.

Merck Limited
2100 Ronsos Road
Kenilworth, New Jersey 07033-0977, U.S.A.

IVOMEC and Cattle Head Logo are registered trademarks and EPRINEX is a trademark of Merck Limited.

U.S. Pat. 4,427,695 and 5,602,167

Made in U.S.A.

84118F

Lot No & Exp. Date ▼



Lot No & Exp. Date area
Unprotected area
(1.34"W x 1.4"H)

Component is shown at a 50% Reduction of original size

Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gold)
- Pantone 116 (Yellow)
- Gradation of Pantone 289 (Blue) into Pantone 300 (Blue)
- Gradation of Pantone 300 (Blue) into Pantone 289 (Blue)

Product 30252



Eprinex™

(eprinomectin)

Pour-On for Beef and Dairy Cattle

Parasiticide
Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites

Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Merial Limited
2100 Rossion Road
Beth, New Jersey 08817-3077, U.S.A.

2.5L (84.5 fl oz)

ADA 141-019 Approved by the FDA



8331704F

Residue Information: When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required, therefore, meat and milk from cattle treated with IVOMECC EPRINEX (eprinomectin) Pour-On may be used for human consumption at any time following treatment.

WARNING:
Keep this and all drugs out of the reach of children.
NOT FOR USE IN HUMANS.

As with any topical medication intended for treatment of animals, skin contact should be avoided. If accidental skin contact occurs, wash immediately with soap and water. If accidental eye exposure occurs, flush eyes immediately with water. The material safety data sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS or for assistance, contact the Merck National Service Center at 1-800-872-8372.

PRECAUTIONS
This product is for topical application only. Do not administer orally or by injection.
Do not apply to areas of the backline covered with mud or manure.

IVOMECC EPRINEX Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

When to Treat Cattle with Grubs
IVOMECC EPRINEX Pour-On is highly effective against all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the heel fly (stable fly) season. While this is not peculiar to eprinomectin, destruction of *Hypoderma* larvae (cattle grubs) at the period when these grubs are in vital areas may cause undesirable host-parasite reactions. Killing *Hypoderma* larvae when it is in the esophageal tissues may cause bloat; killing it in the vertebral canal may cause staggering or paralysis. Cattle should be treated either before or after these stages of grub development.

Cattle treated with IVOMECC EPRINEX Pour-On at the end of the fly season may be re-treated with IVOMECC EPRINEX Pour-On during the winter without danger of

grub-related reactions. For further information and advice on a planned parasite control program, consult your veterinarian.

Environmental Safety
Studies indicate that when eprinomectin comes in contact with the soil it readily and highly binds to the soil and becomes inactive. Free eprinomectin may adversely affect fish and certain aquatic organisms. Do not contaminate water by direct application or by the improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration.

ADVERSE REACTIONS
No adverse reactions were observed during clinical trials.

STORAGE CONDITIONS
Store bottle or pack in the carton to protect from light and at temperature up to 106°F/40°C. Storage at temperature up to 104°F/40°C is permitted for a short period of time. However, such exposure should be minimized.

HOW SUPPLIED
IVOMECC EPRINEX (eprinomectin) Pour-On for Beef and Dairy Cattle is available in a 250 mL/8.5 fl oz (30250) or 1L/33.8 fl oz (30251) bottle with a squeeze-measure-pour system, or in a 2.5L/84.5 fl oz (30252) or 5 L/169 fl oz (30253) collapsible pack intended for use with appropriate automatic dosing equipment.

Merial Limited
2100 Rossion Road
Beth, New Jersey 08830-3077, U.S.A.
Merial Limited, Registered in England and Wales (Reg. No. 3332781) with registered office at 27 Knightsbridge, London, SW1X 7DT, England and domiciled in Delaware, USA as Merial LLC.
U.S. Pat. 4427643 and 5602107
Copyright © 1997, Merial Limited.
All Rights Reserved
Made in U.S.A.

October 1997

1.687" 11.314 OZ

Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gold)
- Pantone 116 (Yellow)
- Gradation of Pantone 289 (Blue) into Pantone 300 (Blue)
- Gradation of Pantone 300 (Blue) into Pantone 289 (Blue)

Product **30252**

ivomec™

Eprinex™
(eprinomectin)

Pour-On for Beef and Dairy Cattle
Parasiticide
Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites

Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Merial Limited
2100 Ranson Road
Iselin, New Jersey 08830-3077, U.S.A.

2.5L (84.5 fl oz)

NADA 141-079, Approved by the FDA



8931704F

Lot No. ↑
Exp Date ↓



Product 30253

ivomec[®]

Eprinex[™]
(eprinomectin)

Pour-On for Beef and Dairy Cattle

Parasiticide
Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites

Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Merial Limited
2100 Ronson Road
Iselin, New Jersey 08830-3077, U.S.A.

5L (169 fl oz)

MADA 141-079. Approved by the FDA

8931803F



Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gold)
- Pantone 116 (Yellow)
- Gradation of Pantone 289 (Blue) into Pantone 300 (Blue)
- Gradation of Pantone 300 (Blue) into Pantone 289 (Blue)

Lot No
Exp Date

BASE LABEL

Product 30253

ivomec[®]

Eprinex[™]
(eprinomectin)

Pour-On for Beef and Dairy Cattle

Parasiticide

Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites

Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Merial Limited
2100 Ronson Road
Iselin, New Jersey 08830-3077, U.S.A.

5L (169 fl oz)

NADA 141-079. Approved by the FDA

8931803F



Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gold)
- Pantone 116 (Yellow)
- Gradation of Pantone 289 (Blue) into Pantone 300 (Blue)
- Gradation of Pantone 300 (Blue) into Pantone 289 (Blue)

OPEN INSERT BACK

IVOMEC[®] Eprinex[™]

Pour-On for Beef and Dairy Cattle

Parasiticide

Contains 5 mg eprinomectin/mL

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INTRODUCTION

IVOMEC EPRINEX Pour-On delivers highly effective internal and external parasite control in one application. Discovered and developed by scientists from Merck Research Laboratories, IVOMEC EPRINEX Pour-On contains eprinomectin, a unique avermectin. Its broad-spectrum efficacy in a weatherproof formulation, margin of safety, zero slaughter withdrawal and zero milk discard, make it a convenient product for parasite control in beef and dairy cattle, including lactating dairy cattle.

MODE OF ACTION

Eprinomectin is a member of the macrocyclic lactone class of endectocides which have a unique mode of action. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells.

This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA).

The margin of safety for compounds of this class is attributable to the fact that mammals do not have glutamate-gated chloride channels. The macrocyclic lactones have a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

IVOMEC and Cattle Head Logo are registered trademarks and EPRINEX is a trademark of Merck Limited.
NADA 141-079, Approved by the FDA.

INDICATIONS

IVOMEC EPRINEX (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms, grubs, sucking and biting lice, chorioptic and sarcoptic mange mites, and horn flies in beef and dairy cattle of all ages, including lactating dairy cattle. Applied at the recommended dose volume of 1 mL/10 kg (22 lb) body weight to achieve a dose level of 500 mcg eprinomectin/kg body weight, IVOMEC EPRINEX Pour-On is indicated for the effective treatment and control of the following parasites.

Gastrointestinal Roundworms

Haemonchus placei (adults and L4)
Ostertagia ostertagi (adults and L4)
(including inhibited L4)

Trichostrongylus axei (adults and L4)

Trichostrongylus colubriformis (adults and L4)

Trichostrongylus longispicularis (adults only)

Cooperia oncophora (adults and L4)

Cooperia punctata (adults and L4)

Cooperia subrostrata (adults and L4)

Nematodius helveticus (adults and L4)

Oesophagostomum radiatum (adults and L4)

Bunostomum phlebotomum (adults and L4)

Strongyloides papillosus (adults only)

Trichuris spp. (adults only)

Lungworms

Dictyocaulus viviparus (adults and L4)

Cattle Grubs (all parasitic stages)

Hypoderma lineatum

Hypoderma bovis

Lice

Damalima bovis

Linognathus vituli

Haematopinus eurysternus

Solenopotes capillatus

Mange Mites

Chorioptes bovis

Sarcoptes scabiei

Horn Flies

Haematobia irritans

Persistent Activity

IVOMEC EPRINEX (eprinomectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infections and to protect cattle from re-infection with *Dictyocaulus viviparus* for 21 days after treatment and *Haematobia irritans* for 7 days after treatment.

Use Conditions

Varying weather conditions, including rainfall, do not affect the efficacy of IVOMEC EPRINEX Pour-On.

Management Considerations for Treatment of External Parasites

For best results IVOMEC EPRINEX Pour-On should be applied to all cattle in the herd. Cattle introduced to the herd later should be treated prior to introduction. Consult your veterinarian or an entomologist for the most effective timing of applications for the control of external parasites.

Chorioptic Mange: In clinical studies evaluating the efficacy of IVOMEC EPRINEX Pour-On against chorioptic mange mites, mites were not recovered from skin scrapings taken 8 weeks after treatment; however, chronic skin lesions were still present on some animals.

Horn Flies: For optimal control of horn flies, as IVOMEC EPRINEX Pour-On provides 7 days of persistent activity against horn flies, the product should be used as part of an integrated control program utilizing other control methods to provide extended control.

DOSAGE

The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mL/10 kg (22 lb) of body weight. The product should be applied topically along the backline in a narrow strip extending from the withers to the tailhead.

ADMINISTRATION

Squeeze-Measure-Pour System (250 mL/8.5 fl oz Bottle with 25 mL Metering Cup)

Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. The off (STOP) position will close the system between dosing. Tilt the bottle to deliver the dose.

Squeeze-Measure-Pour System (1 Liter/33.8 fl oz Bottle with 50 mL Metering Cup)

Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. When a 220 lb (10 mL) or 330 lb (15 mL) dose is required, turn the pointer to "STOP" before delivering the dose. The off (STOP) position will close the system between dosing. Tilt the bottle to deliver the dose.

Collapsible Pack (2.5 L/84.5 fl oz and 5 L/169 fl oz Packs)

Connect the dosing applicator and draw-off tubing to the collapsible pack as follows:

Attach the open end of the draw-off tubing to an appropriate dosing applicator. Attach draw-off tubing to the cap with the stem that is included in the pack. Replace the shipping cap with the cap having the draw-off tubing.

Gently prime the dosing applicator, checking for leaks. Follow the dosing applicator manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing applicator and draw-off tubing.

ANIMAL SAFETY

Tolerance and toxicity studies have demonstrated the margin of safety for eprinomectin in cattle. In toxicity studies, application of 3 times the recommended dose had no adverse effects on neonatal calves, and application of up to 5 times the recommended dose 3 times at 7 day intervals had no adverse effects on 8 week old calves. In the tolerance study, one of 6 cattle treated once at 10 times the recommended dose showed clinical signs of mydriasis. Application of 3 times the recommended dose had no adverse effect on breeding performance of cows or bulls.

6.35

575

5687

11 375 OPEN INSERT

Product

ivomec
Eprinex
Pour-On for Beef and Dairy Cattle
Contains 5 mg eprinomectin/mL

Product 30251

ivomec
Eprinex
(eprinomectin)
Pour-On for Beef and Dairy Cattle

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INDICATIONS:
IVOMEC EPRINEX Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms (21 days of control), grubs, sucking and biting lice, chorioptic and sarcoptic mange mites, and horn flies (7 days of control) in beef and dairy cattle of all ages, including lactating dairy cattle.

See package insert for complete indications and use directions.

USE CONDITIONS:
Varying weather conditions, including rainfall, do not affect the efficacy of IVOMEC EPRINEX Pour-On.

DOSAGE:
The dose rate is 1 mL/10 kg (22 lb) of body weight. The product should be applied topically along the backline in a narrow strip extending from the withers to the tailhead.

ADMINISTRATION:
Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. When a 220 lb (10 mL) or 330 lb (15 mL) dose is required, turn the pointer to "STOP" before delivering the dose. The off (STOP) position will close the system between dosing. Turn the bottle to deliver the dose.

Merck Limited
200 Avenue Road
Kenilworth, New Jersey 07033-3077, U.S.A.

IVOMEC and Eprinex are registered trademarks and EPRINEX is a trademark of Merck Limited.

© 1994 Merck Limited

Made in U.S.A.



Lot No. & Exp. Date



ivomec
Eprinex
Pour-On for Beef and Dairy Cattle



ANIMAL SAFETY:
Tolerance and toxicity studies have demonstrated the margin of safety for eprinomectin in cattle. In toxicity studies, application of 3 times the recommended dose had no adverse effects on neonatal calves, and application of up to 5 times the recommended dose 5 times at 7 day intervals had no adverse effects on 8 week old calves. In the tolerance study, one of 6 cattle treated once at 10 times the recommended dose showed clinical signs of mydriasis. Application of 3 times the recommended dose had no adverse effect on breeding performance of cows or bulls.

Residue Information: When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required; therefore, meat and milk from cattle treated with IVOMEC EPRINEX Pour-On may be used for human consumption at any time following treatment.

WARNING:
Keep this and all drugs out of the reach of children.

NOT FOR USE IN HUMANS.
As with any topical medication intended for treatment of animals, skin contact should be avoided. If accidental skin contact occurs, wash immediately with soap and water. If accidental eye exposure occurs, flush eyes immediately with water. The material safety data sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS or for assistance, contact the Merck National Service Center 1-800-672-6372.

Product 30251

ivomec
Eprinex
(eprinomectin)
Pour-On for Beef and Dairy Cattle

Parasiticide
Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites

Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Contains 40 Doses (550 lb)

1L (33.8 fl oz)

MA 141-079. Approved by the FDA



ivomec
Eprinex
Pour-On for Beef and Dairy Cattle

This topically applied formulation of IVOMEC EPRINEX Pour-On delivers highly effective internal and external parasite control in one application.

PRECAUTIONS:
This product is for topical application only. Do not administer orally or by injection.

Do not apply to areas of the backline covered with mud or manure. IVOMEC EPRINEX Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

ENVIRONMENTAL SAFETY:
Studies indicate that when eprinomectin comes in contact with the soil it readily and heavily binds to the soil and becomes inactive. Free eprinomectin may adversely affect fish and certain aquatic organisms. Do not contaminate water by direct application or by the improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration.

STORAGE CONDITIONS:
Store bottle in the carton to protect from heat and at temperatures up to 30°F/30°C. Storage at temperatures up to 104°F/40°C is permitted for a short period of time; however, such exposure should be minimized.



3 0373-302511 2

Component is shown at a 60% Reduction of original size

WARNING:
Keep this and all drugs out of the reach of children. Do not use this product if you are pregnant or nursing. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients.

NOT FOR USE IN HUMANS
Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients.

PRECAUTIONS:
This product is for topical application only. Do not apply to areas of the body covered with cuts or abrasions. Do not use this product if you are allergic to any of the ingredients.

ADVERSE REACTIONS:
Some adverse reactions may occur during early stages of treatment. These reactions are usually mild and self-limiting. Do not use this product if you are allergic to any of the ingredients.

HOW SUPPLIED:
Ivomec Eprinex Pour-On for Beef and Dairy Cattle is available in a 1 L (33.8 fl oz) (30251) or a 5 L (165.0 fl oz) (30252) plastic bottle with a tamper-evident cap. The 1 L (33.8 fl oz) (30251) bottle is intended for use with a 1 L (33.8 fl oz) (30251) automatic dosing equipment.

Manual Limited:
2100 Reseal Tab
No. 8931603P
Merial Limited, Registered in England and Wales. First registered in the United States of America at 27 Kingsway, London, SW1X 1QJ. Exported and domesticated in the U.S. by Merial LLC, 2100 Reseal Tab, Fort Lauderdale, FL 33305, U.S.A. ©1997 Merial Limited. All Rights Reserved. Made in U.S.A.

WARNING:
Keep this and all drugs out of the reach of children. Do not use this product if you are pregnant or nursing. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients.

NOT FOR USE IN HUMANS
Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are allergic to any of the ingredients.

PRECAUTIONS:
This product is for topical application only. Do not apply to areas of the body covered with cuts or abrasions. Do not use this product if you are allergic to any of the ingredients.

ADVERSE REACTIONS:
Some adverse reactions may occur during early stages of treatment. These reactions are usually mild and self-limiting. Do not use this product if you are allergic to any of the ingredients.

HOW SUPPLIED:
Ivomec Eprinex Pour-On for Beef and Dairy Cattle is available in a 1 L (33.8 fl oz) (30251) or a 5 L (165.0 fl oz) (30252) plastic bottle with a tamper-evident cap. The 1 L (33.8 fl oz) (30251) bottle is intended for use with a 1 L (33.8 fl oz) (30251) automatic dosing equipment.

Manual Limited:
2100 Reseal Tab
No. 8931603P
Merial Limited, Registered in England and Wales. First registered in the United States of America at 27 Kingsway, London, SW1X 1QJ. Exported and domesticated in the U.S. by Merial LLC, 2100 Reseal Tab, Fort Lauderdale, FL 33305, U.S.A. ©1997 Merial Limited. All Rights Reserved. Made in U.S.A.

Product 30251

Ivomec Eprinex

Pour-On for Beef and Dairy Cattle
Parasiticide



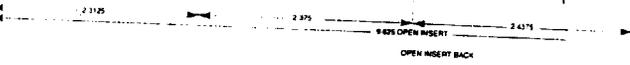
For Treatment and Control of Internal and External Parasites

Reseal Information:
Zero Splash/No Withdrawal
Zero Milk Discard

1 L (33.8 fl oz) 8931603P Approved by the FDA

1 L (33.8 fl oz)

October 1997



Ivomec Eprinex
Pour-On for Beef and Dairy Cattle
Parasiticide

Contains 5 mg eprinomectin.

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INTRODUCTION:
Ivomec Eprinex Pour-On delivers highly effective ivermectin and external parasite control in one application. It is indicated and developed by scientists from Merial Research Laboratories. Ivomec Eprinex Pour-On contains eprinomectin, a unique formulation of ivermectin, and a water-soluble formulation of ivermectin. The ivermectin component is highly effective against internal and external parasites. The water-soluble component is highly effective against external parasites.

MODE OF ACTION:
Eprinomectin is a member of the macrocyclic lactone class of compounds which have a unique mode of action. It is highly effective against internal and external parasites. It is highly effective against internal and external parasites. It is highly effective against internal and external parasites.

nerve or muscle cell resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA).

The margin of safety for compounds of this class is attributable to the fact that mammals do not have ligand-gated chloride channels, the receptors for GABA. However, a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

INDICATIONS:
Ivomec Eprinex (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal parasites including pinworm (Oxyuris equi), roundworm (Strongylus edentatus), lungworm (Dictyocaulus viviparus), and lungworm (Dictyocaulus viviparus), and for the control of external parasites including ticks (Ixodes ricinus, Ixodes trianguliceps, Ixodes ricinus, Ixodes trianguliceps, Ixodes ricinus, Ixodes trianguliceps), lice (Bovicola bovis, Bovicola caprae, Bovicola ovis, Bovicola caprae, Bovicola ovis, Bovicola caprae), and mites (Demodex ovis, Demodex caprae, Demodex ovis, Demodex caprae, Demodex ovis, Demodex caprae).

Directions for Use:
Ivomec Eprinex Pour-On should be applied to the back of the neck of the animal. The animal should be restrained and the product should be applied to the back of the neck. The animal should be restrained and the product should be applied to the back of the neck.

chronic skin lesions were still present on some animals.

When this drug is applied to the back of the neck, it is highly effective against internal and external parasites. It is highly effective against internal and external parasites. It is highly effective against internal and external parasites.

DOSAGE:
The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mg, 10 kg body weight. The product should be applied to the back of the neck in a narrow line extending from the withers to the tailhead.

ADMINISTRATION:
Ivomec Eprinex Pour-On should be applied to the back of the neck of the animal. The animal should be restrained and the product should be applied to the back of the neck.



Ivomec Eprinex
Pour-On for Beef and Dairy Cattle
Parasiticide

Contains 5 mg eprinomectin.

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INTRODUCTION:
Ivomec Eprinex Pour-On delivers highly effective ivermectin and external parasite control in one application. It is indicated and developed by scientists from Merial Research Laboratories. Ivomec Eprinex Pour-On contains eprinomectin, a unique formulation of ivermectin, and a water-soluble formulation of ivermectin. The ivermectin component is highly effective against internal and external parasites. The water-soluble component is highly effective against external parasites.

MODE OF ACTION:
Eprinomectin is a member of the macrocyclic lactone class of compounds which have a unique mode of action. It is highly effective against internal and external parasites. It is highly effective against internal and external parasites. It is highly effective against internal and external parasites.

nerve or muscle cell resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA).

The margin of safety for compounds of this class is attributable to the fact that mammals do not have ligand-gated chloride channels, the receptors for GABA. However, a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

INDICATIONS:
Ivomec Eprinex (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal parasites including pinworm (Oxyuris equi), roundworm (Strongylus edentatus), lungworm (Dictyocaulus viviparus), and lungworm (Dictyocaulus viviparus), and for the control of external parasites including ticks (Ixodes ricinus, Ixodes trianguliceps, Ixodes ricinus, Ixodes trianguliceps, Ixodes ricinus, Ixodes trianguliceps), lice (Bovicola bovis, Bovicola caprae, Bovicola ovis, Bovicola caprae, Bovicola ovis, Bovicola caprae), and mites (Demodex ovis, Demodex caprae, Demodex ovis, Demodex caprae, Demodex ovis, Demodex caprae).

Directions for Use:
Ivomec Eprinex Pour-On should be applied to the back of the neck of the animal. The animal should be restrained and the product should be applied to the back of the neck.

chronic skin lesions were still present on some animals.

When this drug is applied to the back of the neck, it is highly effective against internal and external parasites. It is highly effective against internal and external parasites. It is highly effective against internal and external parasites.

DOSAGE:
The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mg, 10 kg body weight. The product should be applied to the back of the neck in a narrow line extending from the withers to the tailhead.

ADMINISTRATION:
Ivomec Eprinex Pour-On should be applied to the back of the neck of the animal. The animal should be restrained and the product should be applied to the back of the neck.



Product 30251

For Treatment and Control of Internal and External Parasites

Zero Splash/No Withdrawal
Zero Milk Discard

Merial Limited
Fort Lauderdale, Florida 33305, U.S.A.
8931603P

1 L (33.8 fl oz)

8931603P

Exp Date

Product 30251

For Treatment and Control of Internal and External Parasites

Zero Splash/No Withdrawal
Zero Milk Discard

Merial Limited
Fort Lauderdale, Florida 33305, U.S.A.
8931603P

1 L (33.8 fl oz)

8931603P

Exp Date

By releasing the pressure, the dose is automatically 4.0 ml (1.35 oz) into the reservoir. When a 2.0 ml (0.68 oz) or 3.0 ml (1.02 oz) dose is required, the pointer is placed at the 2.0 ml or 3.0 ml mark on the reservoir. The dose is then released by the stop button. The dose is automatically 4.0 ml (1.35 oz) into the reservoir. The dose is then released by the stop button. The dose is automatically 4.0 ml (1.35 oz) into the reservoir. The dose is then released by the stop button.

Collapsible Pack (2.5 L/84.5 fl oz and 5 L/169 fl oz Packs)
Connect the dosing applicator and draw-off tubing to the collapsible pack as follows:

Attach the open end of the draw-off tubing to an appropriate dosing applicator. Attach the draw-off tubing to the cap with the stem that is located in the pack. Replace the shipping cap with the cap having the draw-off tubing.

Gently prime the dosing applicator, checking for leaks. Follow the dosing applicator manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing applicator and draw-off tubing.

ANIMAL SAFETY
Tolerance and toxicity studies have demonstrated the margin of safety for ivermectin in cattle. In toxicity studies, application of 3 times the recommended dose had no adverse effects on neonatal calves, and application of up to 5 times the recommended dose to 3 weeks old calves. In the tolerance study one of 6 calves treated once at 10 times the recommended dose showed clinical signs of mydriasis. Application of 3 times the recommended dose had no adverse effect on breeding performance of cows or bulls.

Residue Information: When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required, therefore, meat and milk from cattle treated with IVMOME EPRINEX (ivermectin) Pour-On may be used for human consumption at any time following treatment.

WARNING:
Keep this and all drugs out of the reach of children.
NOT FOR USE IN HUMANS

As with any topical or injectable antiparasitic for treatment of animals, this product should be avoided. If accidental water or accidental eye exposure occurs, flush eyes immediately with water. The material safety data sheet (MSDS) contains more detailed occupational safety information. For occupational safety information, contact the Merck National Service Center at 1-800-672-5372.

PRECAUTIONS:
This product is for topical application only. Do not administer orally or by syringe. Do not apply to areas of the livestock covered with mud or manure.

IVMOME EPRINEX (ivermectin) Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

When to Treat Cattle with Grubs
IVMOME EPRINEX Pour-On is highly effective against all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the heel fly (warble fly) season. While this is not true for ivermectin, destruction of *Hypoderma* (cattle grubs) in vital areas may cause undesirable host reactions. Killing *Hypoderma* anatum when it is in the esophageal tissues may cause local, killing *H. bovis* or *H. lineatum* in the vertebral canal may cause staggering or paralysis. Cattle should be treated either before or after these stages of grub development.

Cattle treated with IVMOME EPRINEX Pour-On at the end of the fly season may be re-treated with

IVMOME EPRINEX (ivermectin) Pour-On during the winter without danger of grub-related reactions. For further information and advice on a planned parasite control program, consult your veterinarian.

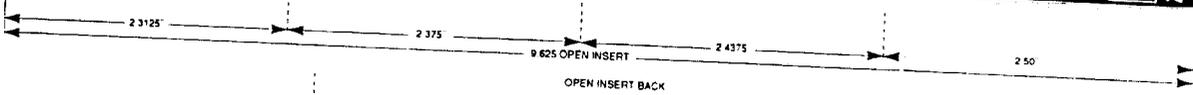
Environmental Safety:
Ivermectin is stable when exposed to sunlight and with the soil. Ivermectin is highly toxic to fish and becomes inactive. Free ivermectin may adversely contaminate water. Free ivermectin may adversely contaminate water. Free ivermectin may adversely contaminate water. Free ivermectin may adversely contaminate water.

ADVERSE REACTIONS:
No adverse reactions were observed during clinical trials.

STORAGE CONDITIONS:
Store bottle or pack in the carton to protect from light and at temperatures up to 86°F/30°C. Storage at temperatures up to 104°F/40°C is permitted for a short period of time, however, such exposure should be minimized.

HOW SUPPLIED:
IVMOME EPRINEX Pour-On for Beef and Dairy Cattle is available in a 250 mL (8.5 fl oz) (30250) or 1L/33.8 fl oz (2.5 L/84.5 fl oz) (30252) or 5 L/169 fl oz (30253) collapsible pack intended for use with appropriate automatic dosing equipment.

Merck Limited
2100 Florsom Road
Iselin, New Jersey 08830-3077, U.S.A.
(Merck Limited - Registered in England and Wales [Reg No. 3332751] with registered offices at 27 Knightsbridge, Delaware, USA as Merck LLC.)
U.S. Pat. 4427663 and 5602107
Copyright 1997 Merck Limited
All Rights Reserved
Made in U.S.A.



IVMOME EPRINEX

Pour-On for Beef and Dairy Cattle
Parasiticide

Contains 5 mg ivermectin/mL.
Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INTRODUCTION
IVMOME EPRINEX Pour-On delivers highly effective internal and external parasite control in one application. Discovered and developed by scientists from Merck Research Laboratories, IVMOME EPRINEX Pour-On contains ivermectin, a unique avermectin. Its broad-spectrum efficacy in a weatherproof formulation, margin of safety, zero slaughter withdrawal and zero milk discard, make it a convenient product for parasite control in beef and dairy cattle, including lactating dairy cattle.

MODE OF ACTION
Ivermectin is a member of the macrocyclic lactone class of endectocides which have a unique mode of action. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells.

This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the IVMOME and Cattle Head Logo are registered trademarks and EPRINEX is a trademark of Merck Limited.
NADA 141-079, Approved by the FDA.

nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those (GABA) of the neurotransmitter gamma-aminobutyric acid (GABA).

The margin of safety for compounds of this class is attributable to the fact that mammals do not have ligand-gated chloride channels, the macrocyclic gated chloride channels and they do not readily cross the blood-brain barrier.

INDICATIONS
IVMOME EPRINEX (ivermectin) Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms, grubs, sucking and biting lice, chorioptic mange mites, and horn flies in beef and dairy cattle of all ages, including lactating dairy cattle. Applied at the recommended dose volume of 1 mL/10 kg (22 lb) ivermectin/kg body weight, IVMOME EPRINEX Pour-On is indicated for the effective treatment and control of the following parasites:

- Gastrointestinal Roundworms**
Haemonchus placei (adults and L4)
Ostertagia ostertagi (including inhibited L4) (adults and L4)
Trichostrongylus axei (adults and L4)
Trichostrongylus colubriformis (adults and L4)
Trichostrongylus longispicatus (adults and L4)
Copiezia oncophora (adults and L4)
Copiezia punctata (adults and L4)
Copiezia stercoraria (adults and L4)
Nematodirus helvetianus (adults and L4)
Oesophagostomum radiatum (adults and L4)
Bunostomum phlebotomum (adults and L4)
Stomoxys calcitrans (adults only)

- Lungworms**
Dicrocoelium viviparum (adults and L4)
- Cattle Grubs (all parasitic stages)**
Hypoderma lineatum
Hypoderma bovis
- Lice**
Dermanyssus bovis
Linognathus setosus
Haematopinus eurysternus
Solenopotes capillatus

- Mange Mites**
Chorioptes bovis
Sarcoptes scabiei
- Horn Flies**
Haematobia irritans

Parasiticide Activity
IVMOME EPRINEX (ivermectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infections and to protect cattle from re-infection with *Dicrocoelium viviparum* for 21 days after treatment and *Haematobia irritans* for 7 days after treatment.

Use Conditions
Varying weather conditions, including rainfall, do not affect the efficacy of IVMOME EPRINEX Pour-On.

Management Considerations for Treatment of External Parasites
For best results IVMOME EPRINEX Pour-On should be applied to all cattle. Cattle introduced to the your veterinarian or an entomologist for the most effective timing of applications for the control of external parasites.

Chorioptic Mange: In clinical studies evaluating the efficacy of IVMOME EPRINEX Pour-On against chorioptic mange mites, chronic skin lesions were still present on some animals.

Horn Flies: For optimal control of horn flies, as IVMOME EPRINEX (ivermectin) Pour-On provides 7 days of persistent activity against horn flies, the product should be used as part of an integrated control program utilizing other control methods to provide extended control.

DOSAGE
The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mL/10 kg (22 lb) of body weight. The product should be applied topically along the backline in a narrow strip extending from the withers to the tailhead.

ADMINISTRATION
Squeeze-Measure-Pour System (250 mL/8.5 fl oz Bottle with 25 mL Metering Cup)
Attach the metering cup to the bottle.
Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.
Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. The off (STOP) position will close the system between dosing. Let the bottle to deliver the dose.
Squeeze-Measure-Pour System (1 L/33.8 fl oz Bottle with 50 mL Metering Cup)
Attach the metering cup to the bottle.
Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hologram area
Unvarnished area
(1.14"W x 1.14"H)

Product 30250
250 mL (8.5 fl oz)
Contains 5 mg eprinomectin/mL

ivomec
EprinexTM
Pour-On for Beef and Dairy Cattle

Product 30250

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitosis.

INDICATIONS:
IVOMEC EPRINEX Pour-On is indicated for the treatment and control of gastrointestinal nematodiasis, including inhibited *Ostertagia circumcincta*, lungworms (*Dictyocaulus viviparus*), and lung lice, as well as sarcoptic mange mites, and horn flies (7 days of control in feed and dairy cattle of all ages, including finishing dairy cattle.

See package insert for complete instructions and usage directions.

USE CONDITIONS:
Varying weather conditions, including rainfall, do not affect the efficacy of IVOMEC EPRINEX Pour-On.

DOSAGE:
The dose rate is 1 mL to 10 kg (2.2 lb) of body weight. The product should be applied topically, along the backline in a narrow strip extending from the withers to the hindend.

ADMINISTRATION:
Attach the enclosing cap to the bottle.
Sift the dose by turning the bag section of the cap to align the correct level. Weight into the powder in the sealed cap. When body weight is between markings, use the higher setting.
Hold the bottle upright and squeeze it to deliver a slight excess of the required dose, as indicated by the calibration lines.
By increasing the pressure, the dose automatically adjusts to the correct level. The off-STOP position will close the system but does not dose. Tilt the bottle to deliver the dose.

Merial Limited
2100 Ranson Road
Kalamazoo, Michigan 49001, U.S.A.

IVOMEC and Cattle Head Logo are registered trademarks and EPRINEX is a trademark of Merial Limited.

U.S. Pat. 4,427,955 and 5,022,167

Made in U.S.A.

S4125F Lot No & Exp Date




Lot No & Exp Date area:
Uncoated area
(1.34"W x 3/4"H)

Component is shown at a 80% Reduction of original size

■ Pantone 289 (Grey)
■ Pantone 300 (Blue)
■ Pantone B74 (Merck Gold)
■ Pantone 116 (Yellow)

■ Gradation of Pantone 300 (Blue)
into Pantone 289 (Blue)

Product 30250

ivomec
EprinexTM
Pour-On for Beef and Dairy Cattle

This typically applied formulation of IVOMEC EPRINEX Pour-On delivers highly effective internal and external parasite control in one application.

PRECAUTIONS:
This product is for topical application only. Do not administer orally, or by injection.
Do not use if the surface of the bottle is covered with marks of moisture.
IVOMEC EPRINEX Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

ENVIRONMENTAL SAFETY:
This product is highly toxic when it immediately comes in contact with the soil and becomes available to the soil and becomes available to other animals. Do not contaminate water, feed, or other animals with this product. Do not contaminate water, feed, or other animals with this product. Dispose of containers in an approved landfill or by incineration.

STORAGE CONDITIONS:
Store IVOMEC in the carton to protect from light and at temperatures up to 85°F (30°C). Storage at temperatures up to 104°F (40°C) is permitted for a short period of time, however, such exposure should be minimized.



For Treatment and Control of Internal and External Parasites
Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Contains 10 Doses (550 lb)
250 mL (8.5 fl oz)

NADA 141-079, Approved by the FDA




ivomec[®]

Eprinex™

(EPRINECTIN)

Pour-On for Beef and Dairy Cattle

Parasiticide

Contains 5 mg eprinomectin/mL

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasites

INTRODUCTION

IVOMEC EPRINEX Pour-On delivers highly effective internal and external parasite control in one application. Discovered and developed by scientists from Merck Research Laboratories, IVOMEC EPRINEX Pour-On contains eprinomectin, a unique nematocidal, its broad-spectrum efficacy in a weatherproof formulation, margin of safety, zero slaughter withdrawal and zero milk discard, make it a convenient product for parasite control in beef and dairy cattle, including lactating dairy cattle.

MODE OF ACTION

Eprinomectin is a member of the macrocyclic lactone class of endectocides which have a unique mode of action. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells.

This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA).

The margin of safety for compounds of this class is attributable to the fact that mammals do not have glutamate-gated chloride channels, the macrocyclic lactones have a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

INDICATIONS

IVOMEC EPRINEX Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms, grubs, sucking and biting lice, chorioptic and sarcoptic mange mites, and horn flies in beef and dairy cattle of all ages, including lactating dairy cattle. Applied at the recommended dose volume of 1 mL/10 kg (22 lb) body weight, to achieve a dose level of 500 mcg eprinomectin/kg body weight, IVOMEC EPRINEX Pour-On is indicated for the effective treatment and control of the following parasites:

- Gastrointestinal Roundworms**
- Haemonchus placei* (adults and L4)
 - Ostertagia ostertagi* (adults and L4)
 - (including inhibited L4)
 - Trichostrongylus axei* (adults and L4)
 - Trichostrongylus colubriformis* (adults and L4)
 - Trichostrongylus longispicularis* (adults only)
 - Cooperia oncophora* (adults and L4)
 - Cooperia punctata* (adults and L4)
 - Cooperia burnsidei* (adults and L4)
 - Nematodirus helveticus* (adults and L4)
 - Oesophagostomum radiatum* (adults and L4)
 - Bunostomum phlebotomum* (adults and L4)
 - Strongylidae papillosus* (adults only)
 - Trichuris spp.* (adults only)
- Lungworms**
- Dictyocaulus viviparus* (adults and L4)
- Cattle Grubs (all parasitic stages)**
- Hypoderma lineatum*
 - Hypoderma bovis*

IVOMEC and Cattle Head Logo are registered trademarks and EPRINEX is a trademark of Merck Limited.
NADA 141-079, Approved by the FDA

- Lice**
- Damalinia bovis*
 - Linognathus vituli*
 - Haematopinus eurysternus*
 - Solenopotes capillatus*
- Mange Mites**
- Chorioptes bovis*
 - Sarcoptes scabiei*
- Horn Flies**
- Haematobia irritans*

Parasiticide Actively

IVOMEC EPRINEX (eprinomectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infections and to protect cattle from re-infection with *Dictyocaulus viviparus* for 21 days after treatment and *Haematobia irritans* for 7 days after treatment.

Use Conditions

Varying weather conditions, including rainfall, do not affect the efficacy of IVOMEC EPRINEX Pour-On.

Management Considerations for Treatment of External Parasites

For best results IVOMEC EPRINEX Pour-On should be applied to all cattle in the herd. Cattle introduced to the herd later should be treated prior to introduction. Consult your veterinarian or an entomologist for the most effective timing of applications for the control of external parasites.

Chorioptic Mange: In clinical studies evaluating the efficacy of IVOMEC EPRINEX Pour-On against chorioptic mange mites, mites were not recovered from skin scrapings taken 8 weeks after treatment; however, chronic skin lesions were still present on some animals.

Horn flies: For optimal control of horn flies, as IVOMEC EPRINEX Pour-On provides 7 days of persistent activity against horn flies, the product should be used as part of an integrated control program utilizing other control methods to provide extended control.

DOSE

The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mL/10 kg (22 lb) of body weight. The product should be applied topically along the backbone in a narrow strip extending from the withers to the tailhead.

ADMINISTRATION

Squeeze-Measure-Pour System (250 mL/8.5 fl oz Bottle with 25 mL Metering Cup)

Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. The off (STOP) position will close the system between dosing. Turn the bottle to deliver the dose.

Squeeze-Measure-Pour System (1 L/33.8 fl oz Bottle with 50 mL Metering Cup)

Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. When a 220 lb (10 mL) or 330 lb (15 mL) dose is required, turn the pointer to "STOP" before delivering the dose. The off (STOP) position will close the system between dosing. Turn the bottle to deliver the dose.

Collapsible Pack (2.5 L/84.5 fl oz and 5 L/169 fl oz Packs)

Connect the dosing applicator and draw-off tubing to the collapsible pack as follows:

Attach the open end of the draw-off tubing to an appropriate dosing applicator. Attach the draw-off tubing to the cap with the stem that is included in the pack. Replace the shipping cap with the cap having the draw-off tubing.

Gently prime the dosing applicator, checking for leaks. Follow the dosing applicator manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing applicator and draw-off tubing.

ANIMAL SAFETY

Tolerance and toxicity studies have demonstrated the margin of safety for eprinomectin in cattle. In toxicity studies, application of 3 times the recommended dose had no adverse effects on neonatal calves, and application of up to 5 times the recommended dose three times at 7 day intervals had no adverse effects on 8 week old calves. In the tolerance study, one of 6 cattle treated once at 10 times the recommended dose showed clinical signs of myxidosis. Application of 3 times the recommended dose had no adverse effect on breeding performance of cows or bulls.

WARNING:

Residue Information: When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required; therefore, meat and milk from cattle treated with IVOMEC EPRINEX (eprinomectin) Pour-On may be used for human consumption at any time following treatment.

Keep this and all drugs out of the reach of children.

NOT FOR USE IN HUMANS.

As with any topical medication intended for treatment of animals, skin contact should be avoided. If accidental skin contact occurs, wash immediately with soap and water. If accidental eye exposure occurs, flush eyes immediately with water. The material safety data sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS or for assistance, contact the Merck National Service Center at 1-800-672-6372.

PRECAUTIONS:

This product is for topical application only. Do not administer orally or by injection.

Do not apply to areas of the backbone covered with mud or manure. IVOMEC EPRINEX Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

When to Treat Cattle with Grubs

IVOMEC EPRINEX Pour-On is highly effective against all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the heel fly (stable fly) season. While this is not peculiar to eprinomectin, destruction of *Hypoderma larvae* (cattle grubs) at a period when these grubs are in vital areas may cause undesirable host-parasite reactions. Killing *Hypoderma lineatum* when it is in the esophageal tissues may cause bloat, killing *H. bovis* when it is in the vertebral canal may cause staggering or paralysis. Cattle should be treated either before or after these stages of grub development.

Cattle treated with IVOMEC EPRINEX Pour-On at the end of the fly season may be re-treated with IVOMEC EPRINEX Pour-On during the winter without danger of grub-related reactions. For further information and advice on a planned parasite control program, consult your veterinarian.

Environmental Safety

Studies indicate that when eprinomectin comes in contact with the soil it readily and lightly binds to the soil and becomes inactive. Free eprinomectin may adversely affect fish and certain aquatic organisms. Do not contaminate water by direct application or by the improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration.

ADVERSE REACTIONS

No adverse reactions were observed during clinical trials.

STORAGE CONDITIONS

Store bottle or pack in the carton to protect from light and at temperatures up to 66°F/30°C. Storage at temperatures up to 104°F/40°C is permitted for a short period of time, however, such exposure should be minimized.

HOW SUPPLIED

IVOMEC EPRINEX Pour-On for Beef and Dairy Cattle is available in a 250 mL/8.5 fl oz (30250) or 1 L/33.8 fl oz (30251) bottle with a squeeze-measure-pour system, or in a 2.5 L/84.5 fl oz (30252) or 5 L/169 fl oz (30253) collapsible pack intended for use with appropriate automatic dosing equipment.

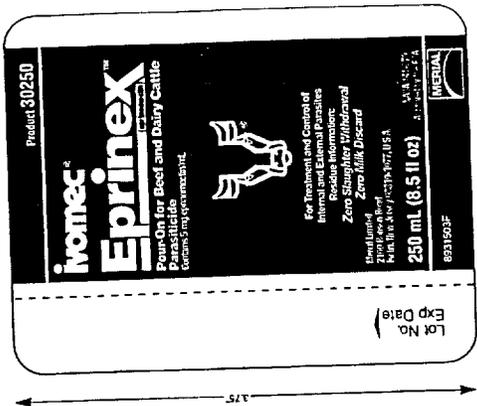
Merck Limited, 2100 Romson Road, Iselin, New Jersey 08830-3077, U.S.A.
(Merck Limited is registered in England and Wales (Reg. No. 3332751) with registered offices at 27 Knightsbridge, London, SW1X 7DT, England and domiciled in Delaware, USA as Merck LLC.)

U.S. Pat. 4,427,683 and 5,602,107
Copyright © 1997, Merck Limited.

All Rights Reserved

Made in U.S.A.

October 1997



BASE LABEL

Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gc)
- Pantone 116 (Yellow)
- Gradation of Pantone into Pantone 300 (Blue)
- Gradation of Pantone into Pantone 289 (Blue)

ivomec[®]
Eprinex[™]
Pour-On for Beef and Dairy Cattle

Parasiticide
Contains 5 mg eprinomectin/mL

Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

INTRODUCTION
IVOMEC EPRINEX Pour-On delivers highly effective internal and external parasite control in one application. Discovered and developed by scientists from Merck Research Laboratories, IVOMEC EPRINEX Pour-On contains eprinomectin, a unique avermectin. Its broad-spectrum efficacy in a weatherproof formulation, margin of safety, zero slaughter withdrawal and zero milk discard, make it a convenient product for parasite control in beef and dairy cattle, including lactating dairy cattle.

IVOMEC and Cattle Head Logo are registered trademarks and EPRINEX is a trademark of Merck Limited.
NADA 141-079, Approved by the FDA

MODE OF ACTION

Eprinomectin is a member of the macrocyclic lactone class of endectocides which have a unique mode of action. Compounds of the class bind selectively and with high affinity to glutamate-gated chloride ion channels which occur in invertebrate nerve and muscle cells. This leads to an increase in the permeability of the cell membrane to chloride ions with hyperpolarization of the nerve or muscle cell, resulting in paralysis and death of the parasite. Compounds of this class may also interact with other ligand-gated chloride channels, such as those gated by the neurotransmitter gamma-aminobutyric acid (GABA).

The margin of safety for compounds of this class is attributable to the fact that mammals do not have glutamate-gated chloride channels. The macrocyclic lactones have a low affinity for other mammalian ligand-gated chloride channels and they do not readily cross the blood-brain barrier.

INDICATIONS

IVOMEC EPRINEX (eprinomectin) Pour-On is indicated for the treatment and control of gastrointestinal roundworms (including inhibited *Ostertagia ostertagi*), lungworms, grubs, scabbing and biting lice, chorioptic and sarcoptic mange mites, and horn flies in beef and dairy cattle of all ages, including lactating dairy cattle. Applied at the recommended dose volume of 1 mL/10 kg (22 lb) body weight, to achieve a dose level of 500 mcg eprinomectin/kg body weight, IVOMEC EPRINEX (eprinomectin) Pour-On is indicated for the effective treatment and control of the following parasites.

Gastrointestinal Roundworms

- Haemonchus placei* (adults and L4)
- Ostertagia ostertagi* (adults and L4) (including inhibited L4)
- Trichostrongylus axei* (adults and L4)
- Trichostrongylus colubriformis* (adults and L4)
- Trichostrongylus longispicularis* (adults only)
- Cooperia ophorophora* (adults and L4)
- Cooperia punctata* (adults and L4)
- Cooperia auradacis* (adults and L4)
- Nematodirus helvetianus* (adults and L4)
- Onchophorum radatum* (adults and L4)
- Bunostomum phlebotomum* (adults and L4)
- Strongyloides papillosus* (adults only)
- Tichuris* spp. (adults only)

- Lungworms**
- Dictyocaulus viviparus* (adults and L4)
- Cattle Grubs (all parasitic stages)**
- Hypoderma lineatum*
- Hypoderma bovis*

Lice

- Dematosis bovis*
- Linognathus vituli*
- Haematobia irritans*
- Solenopotes capillatus*

Mange Mites

- Chorioptic bovis*
- Sarcoptes scabiei*

Horn Flies

- Haematobia irritans*

Parasiticide Activity

IVOMEC EPRINEX (eprinomectin) Pour-On for Beef and Dairy Cattle has been proved to effectively control infestations and to protect cattle from re-infection with *Dictyocaulus viviparus* for 21 days after treatment and *Haematobia irritans* for 7 days after treatment.

Use Conditions

Varying weather conditions, including rainfall, do not affect the efficacy of IVOMEC EPRINEX Pour-On.

Management Considerations for Treatment of External Parasiticide
For best results IVOMEC EPRINEX Pour-On should be applied to all cattle in the herd. Cattle introduced to the herd later should be treated prior to introduction. Consult your veterinarian or an entomologist for the most effective timing of applications for the control of external parasites.

Chorioptic Mange: In clinical studies evaluating the efficacy of IVOMEC EPRINEX Pour-On against chorioptic mange mites, mites were not recovered from skin samplings taken 8 weeks after treatment; however, chronic skin lesions were still present on some animals.

Horn Flies: For optimal control of horn flies, as IVOMEC EPRINEX Pour-On provides 7 days of parasiticide activity against horn flies, the product should be used as part of an integrated control program utilizing other control methods to provide extended control.

DOSAGE

The product is formulated only for external application to beef and dairy cattle. The dose rate is 1 mL/10 kg (22 lb) of body weight. The product should be applied topically along the backline in a narrow strip extending from the withers to the tail-head.

ADMINISTRATION

Squeeze-Measure-Pour System (250 mL/ 8.5 fl oz Bottle with 25 mL Metering Cup)
Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting. Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. The off (STOP) position will close the system between dosing. Tilt the bottle to deliver the dose.

Squeeze-Measure-Pour System (1 Liter/ 33.8 fl oz Bottle with 50 mL Metering Cup)
Attach the metering cup to the bottle.

Set the dose by turning the top section of the cup to align the correct body weight with the pointer on the knurled cap. When body weight is between markings, use the higher setting.

Hold the bottle upright and squeeze it to deliver a slight excess of the required dose as indicated by the calibration lines.

By releasing the pressure, the dose automatically adjusts to the correct level. When a 220 lb (10 mL) or 330 lb (15 mL) dose is required, turn the pointer to "STOP" before delivering the dose. The off (STOP) position will close the system between dosing. Tilt the bottle to deliver the dose.

Collapsible Pack (2.5 L/84.5 fl oz and 5 L/ 169 fl oz Packs)

Connect the dosing applicator and draw-off tubing to the collapsible pack as follows:
Attach the open end of the draw-off tubing to an appropriate dosing applicator. Attach the draw-off tubing to the cap with the stem that is included in the pack. Replace the shipping cap with the cap having the draw-off tubing.

Clearly print the dosing applicator, checking for leaks. Follow the dosing applicator manufacturer's directions for adjusting the dose and proper use and maintenance of the dosing applicator and draw-off tubing.

ANIMAL SAFETY

Tolerance and toxicity studies have demonstrated the margin of safety for eprinomectin in cattle. In toxicity studies, application of 3 times the recommended dose had no adverse effects on neonatal calves, and application of up to 5 times the recommended dose 3 times at 7 day intervals had no adverse effects on 8 week old calves. In the tolerance study, one of 6 cattle treated once at 10 times the recommended dose showed clinical signs of myxidriasis. Application of 3 times the recommended dose had no adverse effect on breeding performance of cows or bulls.

Residue Information: When used according to label directions, neither a pre-slaughter drug withdrawal period nor a milk discard time is required, therefore, meat and milk from cattle treated with IVOMEC EPRINEX (eprinomectin) Pour-On may be used for human consumption at any time following treatment.

WARNING:

Keep this and all drugs out of the reach of children.

NOT FOR USE IN HUMANS.

As with any topical medication intended for treatment of animals, skin contact should be avoided. If accidental skin contact occurs, wash immediately with soap and water. If accidental eye exposure occurs, flush eyes immediately with water. The material safety data sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS or for assistance, contact the Merck National Service Center at 1-800-872-6372.

PRECAUTIONS

This product is for topical application only. Do not administer orally or by injection. Do not apply to areas of the backline covered with mud or manure. IVOMEC EPRINEX Pour-On is not recommended for use in species other than cattle. Severe adverse reactions have been reported in other species treated with products containing compounds of this class.

When to Treat Cattle with Grubs
IVOMEC EPRINEX (eprinomectin) Pour-On is highly effective against all stages of cattle grubs. However, proper timing of treatment is important. For the most effective results, cattle should be treated as soon as possible after the end of the heat fly (warble fly) season. While this is not peculiar to eprinomectin, destruction of *Hypoderma larvae* (cattle grubs) at the period when these grubs are in vital areas may cause undesirable host-parasite reactions. Killing *Hypoderma lineatum* when it is in the esophageal tissues may cause bloating, killing *H. bovis* when it is in the vertebral canal may cause staggering or paralysis. Cattle should be treated either before or after these stages of grub development.

Cattle treated with IVOMEC EPRINEX Pour-On at the end of the fly season may be re-treated with IVOMEC EPRINEX Pour-On during the winter without danger of grub-related reactions. For further information and advice on a planned parasite control program, consult your veterinarian.

Environmental Safety

Studies indicate that when eprinomectin comes in contact with the soil it readily and lightly binds to the soil and becomes inactive. Free eprinomectin may adversely affect fish and certain aquatic organisms. Do not contaminate water by direct application or by the improper disposal of drug containers. Dispose of containers in an approved landfill or by incineration.

ADVERSE REACTIONS

No adverse reactions were observed during clinical trials.

STORAGE CONDITIONS

Store bottle or pack in the carton to protect from light and all temperatures up to 86°F/30°C. Storage at temperatures up to 104°F/40°C is permitted for a short period of time, however, such exposure should be minimized.

HOW SUPPLIED

IVOMEC EPRINEX (eprinomectin) Pour-On for Beef and Dairy Cattle is available in a 250 mL/8.5 fl oz (30250) or 1L/33.8 fl oz (30251) bottle with a squeeze-measure-pour system, or in a 2.5L/84.5 fl oz (30252) or 5 L/169 fl oz (30253) collapsible pack intended for use with appropriate automatic dosing equipment.

Merck Limited
2100 Ronson Road
Iselin, New Jersey 08830-3077, U.S.A.

(Merck Limited: Registered in England and Wales [Reg. No. 3332751] with registered offices at 27, Knightsbridge, London, SW1X 7DT, England and domiciled in Delaware, USA as Merck LLC.)

U.S. Pat. 4427863 and 5602107
Copyright © 1997, Merck Limited

All Rights Reserved
Made in U.S.A.

October 1997

Product 30250

ivomec[®]
Eprinex[™]
Pour-On for Beef and Dairy Cattle
Parasiticide
Contains 5 mg eprinomectin/mL

For Treatment and Control of Internal and External Parasites
Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

250 mL (8.5 fl oz)

U.S. Pat. 4427863 and 5602107
Copyright © 1997, Merck Limited

831503F

October 1997

30253

ivomec
Eprinex
Pour-On for Beef and Dairy Cattle
Contains 5 mg eprinomectin/mL
5L (169 fl oz)

Product 30253

Color Legend

- Black
- Pantone 289 (Blue)
- Pantone 300 (Blue)
- Pantone 874 (Merck Gold)
- Pantone 116 (Yellow)

- Gradation of Pantone 289 (Blue) into Pantone 300 (Blue)
- Gradation of Pantone 300 (Blue) into Pantone 289 (Blue)

ivomec
Eprinex
Pour-On for Beef and Dairy Cattle

INDICATIONS:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is a parasiticide that is effective against a wide range of internal and external parasites of beef and dairy cattle. It is effective against the following parasites:

USE CONDITIONS:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is intended for use on beef and dairy cattle. It is not intended for use on other species of animals.

DOSAGE:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is applied as a pour-on to the back of the animal. The dosage is 5 mg eprinomectin/mL.

ADMINISTRATION:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is administered by pouring the product over the back of the animal. The product should be applied to the back of the animal, between the shoulder blades.

ivomec
Eprinex
Pour-On for Beef and Dairy Cattle



ANIMAL SAFETY:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is safe for use on beef and dairy cattle. It is not intended for use on other species of animals.

ivomec Eprinex Pour-On for Beef and Dairy Cattle is safe for use on beef and dairy cattle. It is not intended for use on other species of animals.

Residue Information:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is safe for use on beef and dairy cattle. It is not intended for use on other species of animals.

WARNING:

Keep this and all drugs out of the reach of children.

NOT FOR USE IN HUMANS:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is not for use in humans.

ivomec
Eprinex
Pour-On for Beef and Dairy Cattle
Parasiticide
Contains 5 mg eprinomectin/mL



For Treatment and Control of Internal and External Parasites
Residue Information:
Zero Slaughter Withdrawal
Zero Milk Discard

Contains 200 Doses (550 lb)
5L (169 fl oz)



ivomec
Eprinex
Pour-On for Beef and Dairy Cattle

PRECAUTIONS:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is safe for use on beef and dairy cattle. It is not intended for use on other species of animals.

ENVIRONMENTAL SAFETY:

ivomec Eprinex Pour-On for Beef and Dairy Cattle is safe for use on beef and dairy cattle. It is not intended for use on other species of animals.

STORAGE CONDITIONS:

ivomec Eprinex Pour-On for Beef and Dairy Cattle should be stored in a cool, dry place. It should be protected from light and moisture.



Lot No & Exp Date area
Uncoated area
(1-3/4"W x 3/4"H)



Component is shown at a 40% Reduction of original size