WHAT’S DRIVING US?
We’re driven by the desire to lead our industry in a positive and promising direction – through our behavior, our products, and how and what we communicate. Our team is striving to lead a revolution of prevention technologies and practices that can empower our customers – U.S. and global pork producers – with the robust and proven arsenal of disease protection and reproductive options they need to be successful. This prevention-centric focus provides greater possibilities for profitability through healthier pigs, better animal welfare and broader access in a quickly evolving marketplace.

WHY DOES IT MATTER?
The ability to be proactive instead of reactive has never been more important – so preventing disease and production losses are more critical than ever due to:

- Increased interest among our customers that we minimize reliance on treatment protocols.
- The need to follow strict compliance requirements with the veterinary feed directive.
- Increased pressure from disease outbreaks that compromise operational efficiency and productivity.
- Increased curiosity about food origins among well-intentioned food consumers.

HOW ARE WE DEMONSTRATING IT?
Productivity. Opportunity. Partnership. Wellness. These key pillars embody our foundational approach to how we’ll help propel our customers’ businesses forward and provide the catalyst for bringing continued innovation to America’s pork industry.

DrivenByPrevention.com
### Argus® SC/ST
**Avirulent Live Culture 500 ds, 10x100 ds, 5x100 ds with BluShadow® Diluent**

An aid in the prevention of pneumonia, diarrhea, septicaemia and mortality caused by *Salmonella choleraesuis* and as an aid in control of disease and shedding of *Salmonella typhimurium*. For mass application of pigs 3 weeks of age or older through the drinking water (see complete label instructions). Unique dual-strain protection and safety. Freeze-dried avirulent live culture. BluShadow™ – Blue colored diluent for easy observation of vaccine through proportioner.

### Circumvent® PCV G2
With MICROSOIL DILUVAC FORTE® 50 ds, 250 ds

An aid in the prevention of viremia, aid in the reduction of virus shedding and an aid in the reduction of lymphoid infection caused by porcine circovirus Type 2. Convenient dosing options (one x 2 mL or two x 1 mL) for 1-dose and 2-dose programs (see complete label instructions). The only PCV2 vaccine approved for use in pigs as early as 3 days of age (2-dose option). Five-month PCV2 DOI.

### Circumvent® PCV-M G2
With MICROSOIL DILUVAC FORTE® 50 ds, 250 ds

An aid in the prevention of viremia, aid in the reduction of virus shedding, aid in the reduction of lymphoid infection caused by porcine circovirus Type 2 and an aid in the reduction of lung lesions caused by *Mycoplasma Hyopneumoniae*. Convenient dosing options (one x 2 mL or two x 1 mL) for 1-dose and 2-dose programs (see complete label instructions). The only PCV2 vaccine approved for use in pigs as early as 3 days of age (2-dose option). Five-month PCV2 DOI.

### M+Pac®
With EMUNADE® 100 ds, 500 ds

An aid in the prevention of pneumonia caused by *Mycoplasma Hyopneumoniae* infection in swine. Convenient 1- or 2-dose options (one x 2 mL and two x 1 mL) for 1-dose and 2-dose programs (see complete label instructions). Unique patented dual-emulsion adjuvant. Up to four months DOI with a single shot.

### Myco Silencer® ONCE
With MICROSOIL DILUVAC FORTE® 500 ds

An aid in the prevention of pneumonia caused by *Mycoplasma Hyopneumoniae* infection in swine. Convenient 1- or 2-dose options (one x 2 mL and two x 1 mL) for 1-dose and 2-dose programs (see complete label instructions). Unique patented dual-emulsion adjuvant. Up to six months DOI with a single shot.

### Porcilis® ILEITIS
With MICROSOIL DILUVAC FORTE® 50 ds, 250 ds

An aid in the control of ileitis caused by *Lawsonia intracellularis*, an aid in the reduction of colonization by *Lawsonia* and an aid in the reduction of duration of fecal shedding. Duration of immunity for at least 20 weeks has been demonstrated. 2 mL once IM at 3 weeks of age or older (see complete label instructions).

### Prime Pac® PRRS RR
Modified Live Virus (MLV) 20 ds, 100 ds

This product has been shown to be effective for the vaccination of healthy swine 3 weeks of age or older against respiratory disease caused by Porcine Reproductive and Respiratory Syndrome (PRRS) virus and female breeding age swine against reproductive disease caused by PRRS virus. For sows and gilts, inject a single 1 mL dose intramuscularly (IM) 8 weeks prior to breeding, and for piglets, inject a single 1 mL dose IM at 3 weeks of age or older (see complete label instructions). Freeze-dried MLV vaccine with diluent.

### ProSystem® Rota
Modified Live Virus (MLV) 50 ds

An aid in the prevention of rotaviral diarrhea in young pigs; a 1-mL oral dose and 1-mL IM dose to pig preweaning (see complete label instructions). Unique rotavirus protection includes two major serotypes G4 and G5 of Serogroup A. Freeze-dried MLV vaccine with diluent.
**PRE-BREEDING**  
**PRODUCTS FOR REPRODUCTION EFFICIENCY AND HEALTH**

**MaGESTic® 7**  
with SPUR® 50 ds, 125 ds  
An aid in preventing disease caused by Parvovirus, *Erysipelothrix rhusiopathiae* and five major *Leptospira* serovars; 2-ml dose in breeding-age animals (see complete label instructions). Inactivated vaccine/bacterin.

**Matrix®**  
ALTRENOSTE SOLUTION 0.22% (2.2 MG/ML)  
Allows synchronization of estrus (heat), so gilt pool can be brought into heat when it is convenient and efficient. For synchronization of estrus in sexually mature gilts that have had at least one estrous cycle. Treatment with altrnestogen solution 0.22% results in estrus (standing heat) four to nine days after completion of the 14-day treatment period (see complete label instructions).

**P.G. 600®**  
[serum gonadotropin (PMSG) and chorionic gonadotropin (HCG)]  
Maximizes pig flow by helping more gilts and weaned sows cycle, particularly in summer, producing more pigs when market prices are high. For induction of estrus (heat) in healthy prepuberal (non-cycling) gilts over 5½ months of age and weighing at least 187 lbs. For induction of estrus in healthy weaned sows experiencing delayed return to estrus (see complete label instructions).

**ProSystem® CE**  
ALUMINUM HYDROXIDE 50ds  
For use in healthy pregnant swine as an aid in the prevention of enterotoxemia and colibacillosis in their nursing piglets. A purified and adjuvanted product containing *Escherichia coli* bacterins of our major pilus antigens (K88, K99, F41, 987P) and cell free *Clostridium perfringens* type C toxoid (see complete label instructions).

**ProSystem® RCE**  
Modified Live Virus (MLV) 10ds  
An aid in prevention of rotavirus diarrhea, enterotoxemia colibacillosis in nursing pigs of vaccinated sows/gilts. Unique rotavirus and seven-way scours protection. Includes two major rotavirus serotypes G4 and G5 of Serogroup A. Freeze-dried MLV vaccine with bacterin/toxoid diluent (see complete label instructions).

**ProSystem® TREC**  
Modified Live Virus (MLV) 10ds  
An aid in prevention of TGE, rotaviral diarrhea, colibacillosis and enterotoxemia in nursing pigs of vaccinated sows/gilts. Unique eight-way scours protection. Includes two major rotavirus serotypes G4 and G5 of Serogroup A. Freeze-dried MLV vaccine with bacterin/toxoid diluent (see complete label instructions).

**ProSystem® TGE/Rota**  
Modified Live Virus (MLV) 10ds  
An aid in prevention and control of TGE and rotaviral diarrhea in nursing pigs of vaccinated sows/gilts. Unique TGE and rotavirus protection (use oral plus IM administrations for best TGE protection). Freeze-dried vaccine with diluent (see complete label instructions).

**Symptomatic Care**  
**PRODUCTS FOR PIG HEALTH**

**Safeguard Dewormer**  
20% Type A Medicated Feed Article  
For the removal and control of Lungworms (*Metastrongylus apri*, *Metastrongylus pudendotectus*), Gastrointestinal worms (Adult and larval (L3, L4 stages, liver, lung, intestinal forms); large roundworms (*Ascaris suum*); nodular worms (*Oesophagostomum dentatum*, *O. quadrispinulatum*); small stomach worms (*Hyostrongylus rubidus*); whipworms, adult and larvae (L2, L3, L4 stages - intestinal mucosal forms), (*Trichuris suis*), Kidney worms (Adult and larvae (*Stephanurus dentatus*). The Safe-Guard Dewormer 20% Type A Medicated Feed Article can only be purchased by an approved medicated Feed Mill (see complete label instructions). Ask your Merck Animal Health Representative for the various Safe-Guard presentations available from our distributor partners.

**Banamine®-S**  
(flunixin meglumine injection)  
For control of pyrexia (fever) associated with swine respiratory disease (see complete label instructions).

**RNA Particle Technology**  
**PRODUCTS FOR PIG HEALTH**

**SEQUIVITY™**  
**RNA particle technology**  
An innovative and highly advanced RNA particle technology that’s used to create flexible, safe and precise solutions to new and evolving disease challenges. This remarkable technology targets specific pathogens to produce prescription, customized vaccines against both viral and bacterial pathogens. **SEQUIVITY** technology has been used to address disease challenges such as PCV2, PCV3, rota, influenza and more. Contact a Merck Animal Health representative or your veterinarian to find out more.
**MERCK ANIMAL HEALTH VACCINE ANTIGEN CHART**

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Circovirus Vaccines</strong></td>
<td></td>
</tr>
<tr>
<td>Circumvent® PCV 02</td>
<td>•</td>
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<tr>
<td>Circumvent® PCV-M 02</td>
<td>•</td>
</tr>
<tr>
<td><strong>Respiratory Vaccines</strong></td>
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<tr>
<td>Myco Silencer® ONCE</td>
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<tr>
<td>M+Pac®</td>
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<tr>
<td>Prime Pac® PRS RR</td>
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<tr>
<td><strong>Reproduction Vaccines</strong></td>
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<tr>
<td>MaGEnic® 7</td>
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<tr>
<td><strong>Enteric Vaccines</strong></td>
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<td>Porcilis® Ileitis</td>
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<td>Argus® SC/ST</td>
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<td>ProSystem® PCE</td>
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<td>ProSystem® CE</td>
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<td>ProSystem® Rota</td>
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<tr>
<td>ProSystem® TGE/Rota</td>
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<tr>
<td>ProSystem® TREC</td>
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<tr>
<td><strong>RECOMMENDED NEEDLE SIZES AND LENGTHS:</strong></td>
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<tr>
<td><strong>Intramuscular Injection</strong></td>
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<tr>
<td>Baby Pigs</td>
<td>18 or 20</td>
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<tr>
<td>Nursery</td>
<td>16 or 18</td>
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<tr>
<td>Finisher</td>
<td>16</td>
</tr>
<tr>
<td>Breeding Stock</td>
<td>14 or 16</td>
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<tr>
<td></td>
<td><strong>Length</strong></td>
</tr>
<tr>
<td>Baby Pigs</td>
<td>5/8” or 1/2”</td>
</tr>
<tr>
<td>Nursery</td>
<td>3/4” or 5/8”</td>
</tr>
<tr>
<td>Finisher</td>
<td>1”</td>
</tr>
<tr>
<td>Breeding Stock</td>
<td>1” or 1 1/2”</td>
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<tr>
<td><strong>Subcutaneous Injection</strong></td>
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<td>Finisher</td>
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<tr>
<td>Breeding Stock</td>
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<td></td>
<td><strong>Length</strong></td>
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<tr>
<td>Nursery</td>
<td>1/2”</td>
</tr>
<tr>
<td>Finisher</td>
<td>3/4”</td>
</tr>
<tr>
<td>Breeding Stock</td>
<td>1”</td>
</tr>
</tbody>
</table>

**BANAMINE®-S (FLUNIXIN MEGLUMINE INJECTION (50 MG/ML))**

**For intramuscular use in swine.**

**Veterinary Not for use in breeding swine.**

**NADA #101-479, Approved by FDA.**

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

**DESCRIPTION:** Each milliliter of BANAMINE-S (flunixin meglumine injection) contains 50 mg flunixin (equivalent to 63 mg flunixin meglumine), 0.1 mg edetate disodium, 2.5 mg sodium formaldehyde sulfosaltate, 4.0 mg diethanolamine, 207.2 mg propylene glycol, 5.0 mg phenol as preservative, hydrochloric acid, water for injection q.s.

**CLINICAL PHARMACOLOGY:** Flunixin meglumine is a potent non-narcotic, nonsteroidal, analgesic agent with anti-inflammatory and antipyretic activity. It is significantly more potent than pentazocine, meperidine, and codeine as an analgesic in the rat paw test.

Flunixin is known to persist in inflammatory tissues and is associated with anti-inflammatory properties which extend well beyond the period associated with detectable plasma drug concentrations. Therefore, prediction of drug concentrations based upon estimated plasma terminal elimination half-life will likely underestimate both the duration of drug action and the concentration of drug remaining at the site of activity.

The pharmacokinetic profiles were found to follow a 2-compartmental model, although a deep (third) compartment was observed in some animals. The mean terminal elimination half-life (0.5 half-life) of flunixin after a single intramuscular injection of Banamine (2.2 mg/kg) to pigs was between 3 and 4 hours. The mean observed maximum plasma concentration was 2944 ng/mL, achieved at a mean time of approximately 0.4 hours. The mean AUC(0-LOQ) was 6431 ng*hr/mL. Following IV administration of flunixin, quantifiable drug concentration could be measured up to 18 hours post dose. The mean volume of distribution was 2003 ml/kg and the mean total clearance was 390 ml/hr/kg. The mean absolute bioavailability of flunixin following an intramuscular injection in the neck was 87%.

**INDICATION:** BANAMINE-S (flunixin meglumine injection) is indicated for the control of pyrexia associated with swine respiratory disease.

**DOSE AND ADMINISTRATION:** The recommended dose for swine is 2.2 mg/kg (1 mg/lb; 2 mL per 100 lbs) body weight given by a single intramuscular administration. The injection should be given only in the neck musculature with a maximum of 10 mL per site.

**USE:** WITHIN 28 DAYS OF FIRST PUNCTURE AND PUNCTURE A MAXIMUM OF 10 TIMES. WHEN USING A DRAW-OFF SPIKE OR NEEDLE WITH BORE DIAMETER LARGER THAN 18 GAUGE, DISCARD ANY PRODUCT REMAINING IN THE VIAL IMMEDIATELY AFTER USE.

**Note:** Intramuscular injection may cause local tissue irritation and damage. In an injection-site irritation study, the tissue damage did not resolve in all animals by Day 28 post-injection. This may result in trim loss of edible tissue at slaughter.

**CONTRAINDICATIONS:** There are no known contraindications to this drug in swine when used as directed. Do not use in animals showing hypersensitivity to flunixin meglumine. Use judiciously when renal impairment or gastric ulceration is suspected.

**PRECAUTIONS:** As a class, cyclo-oxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Patients at greatest risk for adverse events are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such prostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease that has not been previously diagnosed.

Since many NSAIDs possess the potential to produce gastrointestinal ulceration, concomitant use of flunixin meglumine with other anti-inflammatory drugs, such as other NSAIDs and corticosteroids, should be avoided.

Not for use in breeding swine. The reproductive effects of BANAMINE-S (flunixin meglumine injection) have not been investigated in this class of swine.

Intramuscular injection may cause local tissue irritation and damage. In an injection site irritation study, the tissue damage did not resolve in all animals by Day 28 post-injection. This may result in trim loss of edible tissue at slaughter.

**ADVERSE REACTIONS:** Flunixin was mildly irritating at the injection sites. No other flunixin-related changes (adverse reactions) were noted in swine administered a 1X (2.2 mg/kg, 1.0 mg/lb) dose for 9 days.

**ANIMAL SAFETY:** Minimal toxicity manifested itself as statistically significant increased spleen weight at elevated doses (5X or higher daily for 9 days) with no change in normal microscopic architecture.

**RESIDUE WARNINGS:** SWINE MUST NOT BE SLAUGHTERED FOR HUMAN CONSUMPTION WITHIN 12 DAYS OF THE LAST TREATMENT.
HOW SUPPLIED: BANAMINE-S (flunixin meglumine injection), 50 mg/mL is available in 100-mL (NDC # 0081-1838-30) multi-dose vials. Store at or below 25°C (77°F). Do not freeze. See the In-Use statement as provided in the Dose and Administration section.

REFERENCES:

DOSAGE AND ADMINISTRATION: One dose (5 mL) of reconstituted PG. 600®, containing 400 IU serum gonadotropin (PMSG) and 200 IU chorionic gonadotropin (hCG), should be injected into the gilt or sow’s neck behind the ear.

Prepuberal gilts should be injected when they are selected for addition to the breeding herd. Sows should be injected at weaning during periods of delayed return to estrus.

Directions for Use:
FIVE DOSE VIALS: Using a sterile syringe and a sterile 0.90 X 38 mm (20 g x 1 1/2") hypodermic needle, transfer approximately 5 mL of the sterile diluent into the vial of freeze-dried powder. Shake gently to dissolve the powder. Transfer the dissolved product back into the vial of diluent and shake gently to mix. Inject one dose (5 mL) into the gilt or sow’s neck behind the ear.

STORAGE PRECAUTIONS: Store at 36-46°F (2-8°C). Once reconstituted, PG. 600 should be used immediately. Unused solution should be disposed of properly and not stored for future use. Spent hypodermic needles and syringes generated as a result of the use of this product must be disposed of properly in accordance with all applicable Federal, State and local regulations.

REFERENCES:


MATRX®
(ALTRENOGEST SOLUTION 0.22% (2.2 MG/mL))

ACTIVE INGREDIENTS: Altrenogest solution 0.22% (2.2 mg/mL)

USE: For synchronization of estrus in sexually mature gilts that have had at least one estrous cycle. Treatment with altrenogest solution 0.22% results in estrus (standing heat) 4 to 9 days after completion of the 14-day treatment period.

CAUTION: Federal law prohibits extra-label use of this drug to enhance food and/or fiber production in animals.

DO NOT USE: In gilts having a previous or current history of uterine inflammation (i.e., acute, subacute or chronic endometritis).

WARNINGS:
USER/HANDLER SAFETY: Keep this and all medication out of the reach of children. Avoid skin contact. Wear vinyl, neoprene or nitrile protective gloves when handling this product. DO NOT USE LATEX GLOVES. Pregnant women or women who suspect they are pregnant should not handle MATRX® (altrenogest) Solution 0.22%. Women of childbearing age should exercise extreme caution when handling this product. Accidental absorption could lead to a disruption of the menstrual cycle or prolongation of pregnancy. Wash off accidental spillage on the skin immediately with soap and water.
SAFE-GUARD® DEWORMER
(20% TYPE A MEDICATED FEED ARTICLE)

INTERVENT/MERCK ANIMAL HEALTH
(fenbendazole)

SWINE: Growing pigs, gilts, pregnant sows, and boar

MUST BE MIXED BEFORE FEEDING ACCORDING TO DIRECTIONS AND PERMITTED CLAIMS. FOR USE IN MANUFACTURED FEEDS ONLY.

ACTIVE DRUG INGREDIENT: Fenbendazole 200 grams per kilogram (90.7 grams per pound).

INERT INGREDIENTS: Rougheh Products or Rougheh Products and Calcium Carbonate; and Mineral Oil or Soybean Oil.

SWINE: Growing pigs, gilts, pregnant sows, and boars

FOR THE REMOVAL AND CONTROL OF:

Lungworms: (Metastrongylus apri, Metastrongylus pudendotectus).

Gastrointestinal worms: Adult and larvae (L3, L4 stages), liver, lung, intestinal forms); large roundworms (Ascaris suum), nodular worms (Oesophagostomum dentatum, O. quadrinudatum); small stomach worms (Hysterostrongylus rhabditis), whipworms, adult and larvae (L2, L3, L4 stages - intestinal mucosal forms), (Trichuris suis).

Kidney worms: Adult and larvae (Stephanurus dentatus).

DOSAGE REGIMEN
9 mg fenbendazole per kg body weight (4.08 mg fenbendazole per pound) to be fed as the sole ration over a period of 3 to 12 days.

EXAMPLE OF MIXING AND FEEDING RATES FOR SAFE-GUARD® 20% TYPE A MEDICATED ARTICLE

<table>
<thead>
<tr>
<th>Average daily feed consumption</th>
<th>Amount of SAFE-GUARD® 20% Type A Medicated Article added to each ton of swine feed based on weight and average feed consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Pig. Wt. (lbs.)</td>
<td>lbs. of Feed</td>
</tr>
<tr>
<td>3 Days</td>
<td>6 Days</td>
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<tr>
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<td>30</td>
<td>2.25</td>
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<td>100</td>
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<tr>
<td>150</td>
<td>6.80</td>
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<tr>
<td>200</td>
<td>8.00</td>
</tr>
</tbody>
</table>

Feed as the sole ration for three (3) to twelve (12) consecutive days. No prior withdrawal of feed or water necessary. When feed containing SAFE-GUARD® has been blended according to the above rates based on pig weight and average daily feed consumption, and is then fed for 3-12 days, a total intake of 9 mg fenbendazole per kilogram body weight (4.08 mg fenbendazole per pound) is assured. Swine feeds containing SAFE-GUARD® can be fed pelleted or as meal.

GENERAL USE DIRECTIONS
It is recommended that SAFE-GUARD® 20% Type A Medicated Article be diluted before addition to the feed. A dilution of one part of SAFE-GUARD®20% Type A Medicated Article and nine parts of grain carrier is the suggested working premix. The working premix is then blended with the complete feed mixture. Thoroughly mix both working premix and complete feed to ensure complete and uniform distribution of the SAFE-GUARD® 20% Type A Medicated Article.

WARNING: KEEP THIS AND ALL DRUGS OUT OF THE REACH OF CHILDREN. NOT FOR USE IN HUMANS. The Material Safety Data Sheet (MSDS) contains more detailed occupational safety information. To report adverse effects, obtain an MSDS, or for assistance contact customer service at 1-800-441-8272.

RESIDUE WARNING: There is no pre-slaughter withdrawal period as SAFE-GUARD® can be fed to day of slaughter.

CONSULT YOUR VETERINARIAN FOR ASSISTANCE IN THE DIAGNOSIS, TREATMENT, AND CONTROL OF PARASITISM

STORE AT OR BELOW 25°C (77°F). EXCURSIONS UP TO 40°C (104°F) ARE PERMITTED.

Merck-animal-health-usa.com  800-521-5767
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