

CAUTION: Needles and syringes should be sterilized by boiling. Do not use chemical sterilization as traces of chemicals may inactivate the vaccine. Use only proper hygiene when handling the vaccine. Clean any spills with disinfectants. Keep the vaccine away from open wounds. Wear gloves if necessary. Consult a physician if contamination occurs. Wash hands thoroughly after using the vaccine. Use entire contents when first opened. Burn this container and all unused contents. Do not vaccinate within 21 days before slaughter. Anaphylactoid reactions may occur. Antidote administer epinephrine.

It is advised to record the vaccine serial number, the expiration date, the date of vaccination and any reactions observed. This product should be stored, transported and administered in accordance with the instructions and directions.



ARKO Laboratories, Ltd.

Jewell, Iowa 50130
U.S. Veterinary License No. 337

SALMONELLA CHOLERAESUIS VACCINE

Avirulent Live Culture

NITRO-SAL

DESCRIPTION: Nitro-Sal is an avirulent live culture to be used as an aid in the prevention of naturally occurring field strains of Salmonella choleraesuis in swine.

INDICATIONS: Recommended for the vaccination of healthy susceptible swine as an aid in the prevention of salmonellosis. Pigs must be healthy and free from any outside stresses at the time of vaccination. Nitro-Sal will provide a successful vaccination but the immune response in the pigs also depends on administration techniques, previous exposure to immunosuppressing agents and environment.

PRECAUTIONS: Store at a temperature of -10 c (14°F) or lower.

ADMINISTRATION AND DOSAGE: Thaw at room temperature. Shake well and use immediately. Aseptically administer 1/2 ml subcutaneously for pigs 1 week of age or older or Administer 1/2 ml per pig orally via the drinking water for pigs 5 weeks of age or older. Administer in an amount of vaccine laden drinking water that the herd will consume in 4 hours.

ORAL ADMINISTRATION:

1) Medications and disinfecting products in the drinking water are not compatible with oral administration of Salmonella Choleraesuis Vaccine.

2) Do not use chlorinated water for vaccination.
 3) Flush water lines with commercial vaccine stabilizer or with 2 cups of human grade non-fat skim milk per 128 gallons of drinking water prior to vaccinating to protect the vaccine and prevent possible inactivation from chlorine residue.

| 15 lbs. Pigs | | 4 Hour consumption | |
|----------------|------------------|------------------------|-----------------------|
| No. of Animals | Doses of Vaccine | Drinking Water Gallons | Stock Solution Ounces |
| 100 | 100 | 12.5 | 12.5 |
| 200 | 200 | 25 | 25 |
| 300 | 300 | 37.5 | 37.5 |
| 400 | 400 | 50 | 50 |
| 500 | 500 | 62.5 | 62.5 |

4) Vaccine stabilizer should be used in the stock solution with the vaccine for the 4 hour vaccination period.

5) Thaw vaccine at room temperature. Shake well and mix into stabilized stock solution. Dosage is based on the number of pigs. Use at least one dose of vaccine per pig being vaccinated. Generally water may be withheld up to 2 hours prior to vaccinating to assure all pigs will drink. The vaccine should be administered orally in an amount of drinking water (stabilized) that would be consumed by thirsty pigs in approximately 4 hours. Provide ample water space so that all the pigs can drink easily.

| 40 lbs. Pigs | | 4 Hour consumption | |
|----------------|------------------|------------------------|-----------------------|
| No. of Animals | Doses of Vaccine | Drinking Water Gallons | Stock Solution Ounces |
| 100 | 100 | 25 | 25 |
| 200 | 200 | 50 | 50 |
| 300 | 300 | 75 | 75 |
| 400 | 400 | 100 | 100 |
| 500 | 500 | 125 | 125 |

6) Daily water consumption for each vaccination needs to be determined just prior to use. Water consumption is affected by weather, management conditions and the age of the pigs. When specific water consumption information is not available please refer to a reference table. The following table will serve as a general guideline to determine the amount of water to be used with the vaccine if more specific information is not available.

| 110 lbs. Pigs | | 4 Hour consumption | |
|----------------|------------------|------------------------|-----------------------|
| No. of Animals | Doses of Vaccine | Drinking Water Gallons | Stock Solution Ounces |
| 100 | 100 | 37.5 | 37.5 |
| 200 | 200 | 75 | 75 |
| 300 | 300 | 112.5 | 112.5 |
| 400 | 400 | 150 | 150 |
| 500 | 500 | 187.5 | 187.5 |

| 240 lbs. Pigs | | 4 Hour consumption | |
|----------------|------------------|------------------------|-----------------------|
| No. of Animals | Doses of Vaccine | Drinking Water Gallons | Stock Solution Ounces |
| 100 | 100 | 50 | 50 |
| 200 | 200 | 100 | 100 |
| 300 | 300 | 150 | 150 |
| 400 | 400 | 200 | 200 |
| 500 | 500 | 250 | 250 |

All figures based on 1 ounce stock solution to 1 gallon drinking water.

| Size of Animals | Gallons of Drinking Water per 100 head in a 4 Hour Consumption Period |
|-----------------|---|
| 15 to 40 lbs. | 12.5 to 25 gallons |
| 40 to 110 lbs. | 25 to 37.5 gallons |
| 110 to 240 lbs. | 37.5 to 50 gallons |