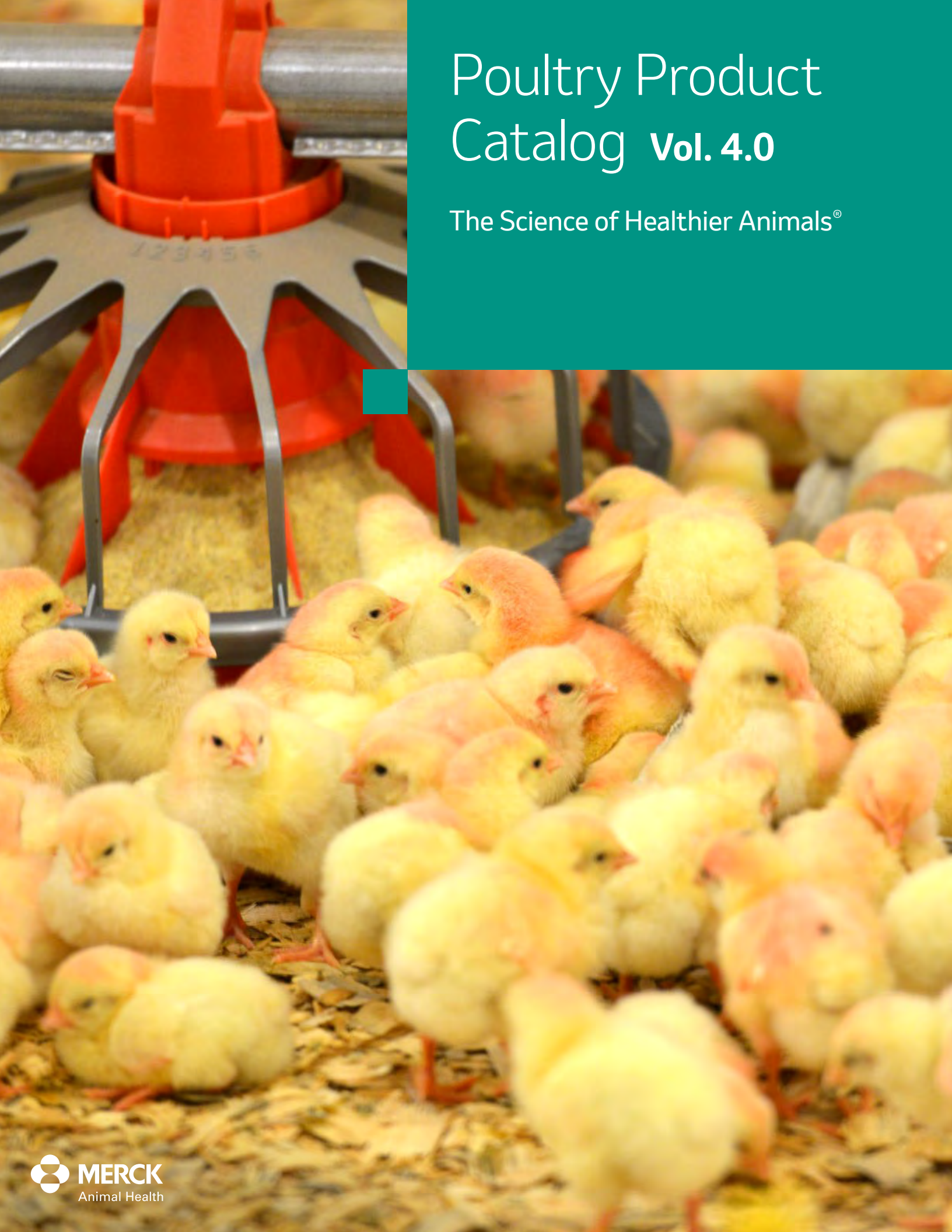
Poultry Product Catalog **Vol. 4.0**

The Science of Healthier Animals®



MERCK Animal Health

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1.0 INTESTINAL HEALTH

PRODUCT BULLETIN

COCCIVAC®-B52

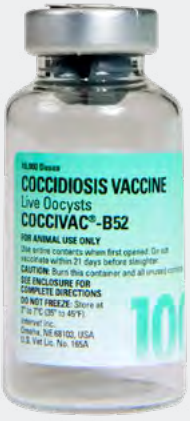
Coccidiosis Vaccine
(*Eimeria acervulina, E. maxima, E. maxima MFP, E. mivati, and E. tenella*)
(Live Oocysts)

For vaccination of healthy chickens at 1 day of age as an aid in the prevention of coccidiosis due to *E. mivati* and *E. tenella* and as an aid in the reduction of lesions related to *E. acervulina* and *E. maxima*.

ADVANTAGES*:

Faster protection – Superior performance

- Advanced formula contains 5 strains of *Eimeria* parasites (4 species) including 2 strains of *Eimeria maxima* in one convenient product for added protection
- Patented Echo Technology* provides earlier immunity development against coccidiosis in broilers:
  - Early initial immunity
  - Later, secondary boost to extend immunity
- Time-tested, easy spray cabinet administration provides lifelong protection
- Fits into any management program – any season, any size, any system
- Manufactured using SPF birds provides increased biosecurity
- Ideal product for use in broilers raised without antibiotics



Coccivac®-B52 vaccine is a live oocysts vaccine isolated from chickens, prepared from anticoccidial-sensitive strains of *Eimeria acervulina*, *E. maxima*, *E. maxima* MFP, *E. mivati*, and *E. tenella*. Administered at 1 day of age via spray cabinet.

10 x 10,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

COCCIVAC®-B52

Coccidiosis Vaccine
(*Eimeria acervulina, E. maxima, E. maxima MFP, E. mivati, and E. tenella*)
(Live Oocysts)

DESCRIPTION

This product contains live oocysts of the following species of coccidia: *Eimeria acervulina, E. maxima, E. maxima MFP, E. mivati,* and *E. tenella*.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age against coccidiosis due to *E. acervulina, E. maxima, E. mivati* and *E. tenella*. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

SPRAY CABINET ADMINISTRATION

FOR CHICKENS 1 DAY OF AGE

The vaccine should be prepared at the rate of 210 ml of distilled water per 1000 doses of vaccine. Each 100 chicks should receive 21 ml of vaccine solution (dye may be added as a marker).

Full Directions for use of the Spray Cabinet are available from the Company.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. This product is not ordinarily recommended for use with prestarter or starter feeds containing coccidiostats.
3. Birds must have access to their droppings as reinfection is required to induce immunity.
4. All chickens should be vaccinated at the same time.
5. Use entire contents when first opened.
6. Do not vaccinate within 21 days before slaughter.
7. Store vaccine at 2° to 8° C (35° to 46° F). Do not freeze.
8. Inactivate unused contents before disposal.
9. Do not mix with other products, except as specified on this label.
10. In case of human exposure, contact a physician.
11. Contains gentamicin as a preservative.
12. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1431.5A
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

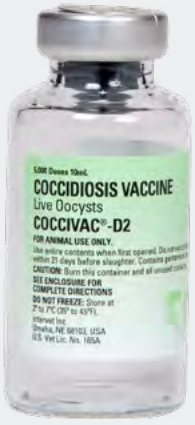
COCCIVAC®-D2

Coccidiosis Vaccine
(*Eimeria tenella, E. mivati, E. acervulina, E. maxima, E. brunetti, E. necatrix*)
(Live Oocysts)

For vaccination of healthy chickens at 1 day of age or 4 days of age as an aid in the prevention of coccidiosis.

ADVANTAGES*:

- Controlled dose stimulates early, mild, predictable immune response to 6 species of *Eimeria* parasites important in chicken production
- Early vaccination stimulates uniform immunity, which is not complicated by skip-a-day feeding programs
- Convenient and flexible administration methods are adapted to different management practices
- Ideal product to be used in parent stock and commercial pullets reared on cages or on the floor
- Can be used in rotation with anticoccidial products to restore sensitivity to coccidiostats
- Manufactured using SPF birds provides increased biosecurity



Coccivac®-D2 vaccine is a live oocyst vaccine prepared from anticoccidial drug-sensitive strains of *Eimeria tenella, E. mivati, E. acervulina, E. maxima, E. brunetti, and E. necatrix*. Its controlled dose may be administered to chickens via spray cabinet at 1 day of age or orally on the feed at 4 days of age to stimulate immunity.

10 x 1,000 doses
10 x 5,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

COCCIVAC®-D2

Coccidiosis Vaccine
(*Eimeria tenella, E. mivati, E. acervulina, E. maxima, E. brunetti, E. necatrix*)
(Live Oocysts)

DESCRIPTION

This product contains live oocysts of the following species of coccidia: *Eimeria acervulina, E. brunetti, E. maxima, E. mivati, E. necatrix* and *E. tenella*.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or 4 days of age against coccidiosis due to *E. acervulina, E. brunetti, E. maxima, E. mivati, E. necatrix* and *E. tenella*. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

SPRAY CABINET ADMINISTRATION

FOR CHICKENS 1 DAY OF AGE

The vaccine should be prepared (or mixed) at the rate of 210 ml of distilled water per 1000 doses of vaccine. Each 100 chicks should receive 21 ml of vaccine solution (dye may be added as a marker).

Full Directions for use of the Spray Cabinet are available from the Company.

FEED SPRAY ADMINISTRATION

FOR CHICKENS 4 DAYS OF AGE

1. Do not use any medicated drinking water or water disinfectant 24 hours before and after vaccination or during vaccination.
2. Feed sprinkled on paper under the feed line increases the exposure of chicks to the vaccine.
3. Dilute the vaccine at a ratio of 1000 doses/400 ml of non-chlorinated water. Mix well and place in a clean garden type pressure sprayer.
4. Spray the diluted vaccine over the surface of the feed. Agitate the sprayer during administration.
5. For best results, the vaccine should be sprayed on all of the feed just prior to consumption by the chickens.
6. Avoid wetting the feed. Proper application will only dampen the surface of the feed.
7. Allow the chicks sufficient time to ingest the oocysts on the feed before placing more feed in the pans or on the paper.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. This product is not ordinarily recommended for use with prestarter or starter feeds containing coccidiostats.
3. Birds must have access to their droppings as reinfection is required to induce immunity.
4. All chickens should be vaccinated at the same time.
5. Use entire contents when first opened.
6. Do not vaccinate within 21 days before slaughter.
7. Store vaccine at 2° to 8° C (35° to 46° F). Do not freeze.
8. Inactivate unused contents before disposal.
9. Do not mix with other products, except as specified on this label.
10. In case of human exposure, contact a physician.
11. Contains gentamicin as a preservative.
12. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1431.5E
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

2.0 RESPIRATORY PROTECTION

PRODUCT BULLETIN

INNOVAX®-ND

Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

ADVANTAGES:*

- Provides extended protection for virulent Newcastle disease (ND) and Marek's disease (MD)
- Effective against ND through at least 60 weeks of age, via the subcutaneous route of administration
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule

Innovax®-ND is a frozen, live, cell-associated ND and MD vaccine. It provides proven protection against virulent ND virus and MD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX® -ND

Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against Marek's disease and Newcastle disease. Duration of immunity has been shown to be at least 60 weeks by the subcutaneous route and 10 weeks by the *in ovo* route for Newcastle Disease. Duration of Immunity has not been established for Marek's Disease. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16N1.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT

Fowl Laryngotracheitis & Marek's Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

For the vaccination of 18-day-old chicken embryos by *in ovo* administration and of healthy one-day-old chickens by subcutaneous route is effective against Marek's disease (MD) and infectious laryngotracheitis (ILT).

ADVANTAGES:*

- Provides protection against both MD and ILT
- Effective against ILT through at least 60 weeks of age when administered by the subcutaneous route
- Offers flexibility for vaccination schedules by offering *in ovo* as well as subcutaneous administration
- Eliminates respiratory vaccination reactions caused by chickens vaccinated with live conventional ILT vaccines
- Eliminates an increase in vaccination reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreak

Innovax®-ILT is a frozen, live, cell-associated laryngotracheitis and MD vaccine. It provides proven protection against ILT and MD. It is approved for *in ovo* administration to 18-day-old chicken embryos and by subcutaneous vaccination of healthy one-day-old chickens.
Innovax-ILT contains recombinant turkey herpes virus used as a vector for the expression of 2 glycoprotein genes from laryngotracheitis virus.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

INNOVAX®-ILT

Fowl Laryngotracheitis & Marek's Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against Marek's disease and infectious laryngotracheitis. Duration of immunity has been shown to be at least 60 weeks by the subcutaneous route and 10 weeks by the *in ovo* route for infectious laryngotracheitis. Duration of Immunity has not been established for Marek's Disease. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16J1.R1
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Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens to provide protection against infectious bursal disease, infectious laryngotracheitis and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ILT, IBD and Marek's disease
- New! Provides protection for variant IBD when given by the *in ovo* route of administration
- Removes the potential for respiratory reactions due to live ILT vaccines
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fi t any vaccination schedule
- Prevents vaccine induced ILT outbreaks

Innovax®-ILT-IBD is a frozen, live, cell-associated ILT, IBD and Marek's vaccine. It provides proven protection against ILT, IBD and Marek's disease. It is approved for *in ovo* injection of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-19-Day-Old Embryonated Chicken Eggs and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from infectious laryngotracheitis virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-19 day-old embryonated chicken eggs, or one-day-old chickens, against Marek's disease, infectious laryngotracheitis and standard infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

Inject 0.2 mL per chick for the subcutaneous route or 0.05 – 0.1 mL per embryonated chicken egg for the in ovo route.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximumof 4 ampules at a time. The remaining ampules should be replaced immediately inthe canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per embryonated chicken egg or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per embryonated chicken egg by the in ovo route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-19-day-old embryonated chicken egg with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1J81.R0
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Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Marek's disease, Newcastle disease, standard and variant infectious bursal disease.

ADVANTAGES:*

- Provides protection for virulent ND, IBD and Marek's disease
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Shown to be effective against standard and variant infectious bursal disease challenge

Innovax®-ND-IBD is a frozen, live, cell-associated Marek's, ND and IBD vaccine. It provides proven protection against Marek's, virulent ND virus, and both standard and variant strains of IBD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This vaccine has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease, standard and variant infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In-ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and bursal disease for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos or chickens should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1A89.R1
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Newcastle disease (ND), infectious laryngotracheitis (ILT) and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ND, ILT and Marek's disease.
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND and ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreaks
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection

Innovax®-ND-ILT is a frozen, live, cell-associated ND, ILT and Marek's vaccine. It provides proven protection against virulent ND virus, ILT and Marek's. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease and infectious laryngotracheitis. Duration of Immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and Infectious Laryngotracheitis for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains Gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN/PCN 165A/1C91.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

MILDVAC-GA-98®

Bronchitis Vaccine
(Georgia Type, Live Virus)

MERCK Animal Health

For the vaccination of healthy chickens at 1 day of age or older for protection against Georgia type infectious bronchitis (IB).

ADVANTAGES*:

- Mild reaction. Safe for use in chicks at 1 day of age
- Protection against Georgia type infectious bronchitis
- Data demonstrates cross-protection against Delaware type infectious bronchitis
- Monovalent vaccine can be tailored to numerous vaccination programs
- GA-98 strain of Georgia type IB selected for its low reactivity and high immunogenicity

Mildvac-GA-98® is a mild-reacting lyophilized vaccine for the protection of chickens against the Georgia type IB. It is approved for spray vaccination of chickens 1 day of age or older.

10 x 10,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

MILDVAC-GA-98®

Bronchitis Vaccine
(Georgia Type, Live Virus)

DESCRIPTION

This live virus vaccine is prepared from the Georgia type, GA98 strain, of Infectious Bronchitis virus. The virus has been propagated using SPF (Specific Pathogen Free) substrates.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against infectious bronchitis virus, Georgia Type. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE OR OLDER
Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live bronchitis vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1231.1L
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

MILDVAC-Ma5™

Bronchitis Vaccine
(Massachusetts Type, Live Virus)

For the vaccination of healthy chickens 1 day of age or older by coarse spray administration or 2 weeks of age or older by drinking water administration for protection against disease due to Massachusetts type bronchitis virus.

ADVANTAGES*:

- Mild reactions for minimal stress
- Administered at 1 day of age or older
- Data demonstrates key component of Protectotype™ strategy providing:
  - Cross-reacting antibodies
  - Wide coverage across multiple strains

Mildvac-Ma5™ is a live vaccine for the protection of chickens against Massachusetts type bronchitis and is a key component of the Protectotype strategy.

10 x 10,000 doses

*Data on file, Merck Animal Health

MILDVAC-Ma5™

Bronchitis Vaccine
(Massachusetts Type, Live Virus)

DESCRIPTION

This live virus vaccine is prepared from the cloned Ma5 strain of Massachusetts type bronchitis. The Ma5 infectious bronchitis strain was developed by Merck Animal Health's research and selected for its low reactivity and high immunogenicity. The virus has been propagated using SPF substrates. The immunizing capability has also been proven by Master Seed Immunogenicity Test.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or 2 weeks of age or older against infectious bronchitis virus, Massachusetts type. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR DRINKING WATER OR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS TWO WEEKS OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccinewill be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, nonchlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE OR OLDER
Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live bronchitis vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1231.1A
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

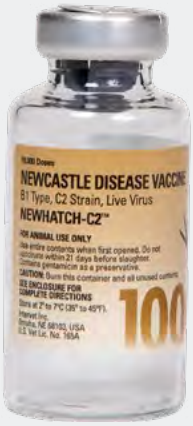
NEWHATCH-C2®

Newcastle Disease Vaccine
(B1 Type, C2 Strain, Live Virus)

For the vaccination of healthy chickens at 1 day of age or older by coarse spray for protection against Newcastle disease (ND).

ADVANTAGES*:

- Effective against field challenge of ND virus
- C2 strain of B_1 type ND minimizes reaction to 1 day of age respiratory vaccination in broiler chicks
- Newhatch-C2® eliminates problems with lingering hatchery reaction prior to field boost
- Safe to use for hatchery application



Newhatch-C2® contains the patented, virtually non-reactive C2 strain of B1 type ND virus. It is a lyophilized vaccine approved for spray vaccination of chickens 1 day of age or older for protection against ND.

10 x 10,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

NEWHATCH-C2®

Newcastle Disease Vaccine
(B1 Type, C2 Strain, Live Virus)

DESCRIPTION

This live virus vaccine is prepared from a B1 Type C2 Strain of Newcastle disease virus. The viruses have been propagated using SPF substrates.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against Newcastle disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAM

Many factors must be considered in determining a sound vaccination program for a particular farm or poultry complex. To be fully effective, the vaccine must be administered properly to healthy, receptive chickens maintained in a proper environment under good management. In addition, the response may be influenced by the age of the chickens and their immune status. Seldom does one live virus vaccination under field conditions produce lifetime protection for all individuals in a given flock. The level of immunity required will vary with operational practices and the degree of exposure. Therefore, a program of periodic revaccinations may be necessary.

PREPARATION OF VACCINE

FOR COARSE SPRAY
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE OR OLDER

Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live Newcastle vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. WARNING: Newcastle virus occasionally causes conjunctivitis in humans. Avoid any contact of vaccine with eyes.
10. In case of human exposure, contact a physician.
11. Contains gentamicin as a preservative.
12. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 17B1.10
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND

Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

ADVANTAGES:*

- Provides extended protection for virulent Newcastle disease (ND) and Marek's disease (MD)
- Effective against ND through at least 60 weeks of age, via the subcutaneous route of administration
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule

Innovax®-ND is a frozen, live, cell-associated ND and MD vaccine. It provides proven protection against virulent ND virus and MD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX® -ND

Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against Marek's disease and Newcastle disease. Duration of immunity has been shown to be at least 60 weeks by the subcutaneous route and 10 weeks by the *in ovo* route for Newcastle Disease. Duration of Immunity has not been established for Marek's Disease. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16N1.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Marek's disease, Newcastle disease, standard and variant infectious bursal disease.

ADVANTAGES:*

- Provides protection for virulent ND, IBD and Marek's disease
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Shown to be effective against standard and variant infectious bursal disease challenge

Innovax®-ND-IBD is a frozen, live, cell-associated Marek's, ND and IBD vaccine. It provides proven protection against Marek's, virulent ND virus, and both standard and variant strains of IBD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This vaccine has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease, standard and variant infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In-ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and bursal disease for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos or chickens should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
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VLN 165A/PCN 1A89.R1
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Newcastle disease (ND), infectious laryngotracheitis (ILT) and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ND, ILT and Marek's disease.
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND and ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreaks
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection

Innovax®-ND-ILT is a frozen, live, cell-associated ND, ILT and Marek's vaccine. It provides proven protection against virulent ND virus, ILT and Marek's. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease and infectious laryngotracheitis. Duration of Immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and Infectious Laryngotracheitis for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains Gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN/PCN 165A/1C91.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

NEWHATCH-C2-M®

Newcastle – Bronchitis Vaccine
(B1 Type, C2 Strain, Massachusetts Type, Live Virus)

For the vaccination of healthy chickens at 1 day of age or older by coarse spray for protection against Newcastle disease (ND) and Massachusetts type infectious bronchitis (IB).

ADVANTAGES*:

- Effective protection against ND and Massachusetts type IB in broilers
- C2 strain of B_1 type ND virus minimizes respiratory reaction to 1 day of age vaccination in broiler chicks
- Newhatch-C2-M® eliminates problems with lingering hatchery reaction prior to field boost
- Safe to use for hatchery application

Newhatch-C2-M® combines the patented, virtually non-reactive C2 strain of B1 ND virus with the IB protection provided by mild Massachusetts strain IB. It is a lyophilized vaccine approved for spray vaccination of chickens 1 day of age or older for protection against ND and Massachusetts type IB disease.

10 x 10,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

NEWHATCH-C2-M®

Newcastle - Bronchitis Vaccine
(B1 Type, C2 Strain, Massachusetts Type, Live Virus)

DESCRIPTION

This live virus vaccine is prepared from a B1 Type C2 Strain of Newcastle disease virus and a mild Massachusetts strain of Infectious Bronchitis virus. The viruses have been propagated using SPF substrates.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against Newcastle disease and infectious bronchitis virus, Massachusetts type. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR COARSE SPRAY
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated tap water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready for coarse spray use in accordance with the following directions. For best results, be sure to follow directions carefully!

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE OR OLDER
Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live Newcastle vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. WARNING: Newcastle virus occasionally causes conjunctivitis in humans. Avoid any contact of vaccine with eyes.
10. In case of human exposure, contact a physician.
11. Contains gentamicin as a preservative.
12. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1XB1.10
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

NEWHATCH-C2-MC®

Newcastle – Bronchitis Vaccine
(B1 Type, C2 Strain, Massachusetts and Connecticut Types, Live Virus)

For the vaccination of healthy chickens at 1 day of age or older by coarse spray for protection against Newcastle disease (ND) and Massachusetts and Connecticut types infectious bronchitis (IB).

ADVANTAGES*:

- C2 strain of B_1 type ND minimizes reaction to 1 day of age respiratory vaccination in broiler chicks
- Newhatch-C2-MC® eliminates problems with lingering hatchery reaction prior to field boost
- Safe to use for hatchery application

Newhatch-C2-MC® combines the patented, virtually nonreactive C2 strain of B1 type ND virus with IB protection provided by mild Massachusetts and Connecticut types of IB. It is a lyophilized vaccine approved for spray vaccination of chickens 1 day of age or older for protection against Newcastle disease and Massachusetts and Connecticut types IB disease.

10 x 10,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

NEWHATCH-C2-MC®

Newcastle - Bronchitis Vaccine
(B1 Type, C2 Strain, Massachusetts and Connecticut Types, Live Virus)

DESCRIPTION

This live virus vaccine is prepared from a B1 Type C2 Strain of Newcastle disease virus and a mild Massachusetts and Connecticut types of Infectious Bronchitis virus. The viruses have been propagated using SPF substrates.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or older against Newcastle disease and infectious bronchitis virus, Massachusetts and Connecticut types. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAM

Many factors must be considered in determining a sound vaccination program for a particular farm or poultry complex. To be fully effective, the vaccine must be administered properly to healthy, receptive chickens maintained in a proper environment under good management. In addition, the response may be influenced by the age of the chickens and their immune status. Seldom does one live virus vaccination under field conditions produce lifetime protection for all individuals in a given flock. The level of immunity required will vary with operational practices and the degree of exposure. Therefore, a program of periodic revaccinations may be necessary.

PREPARATION OF VACCINE

FOR COARSE SPRAY
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE OR OLDER
Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live Newcastle vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. 7Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. WARNING: Newcastle virus occasionally causes conjunctivitis in humans. Avoid any contact of vaccine with eyes.
10. In case of human exposure, contact a physician.
11. Contains gentamicin as a preservative.
12. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1XC1.10
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

TRIPLEVAC®

Newcastle – Bronchitis Vaccine
(B_1 Type, B_1 Strain, Massachusetts and Connecticut Types, Live Virus)

For the vaccination of chickens at 1 day of age or older by coarse spray or drinking water vaccination at 2 weeks of age or older for protection against Newcastle disease (ND) and Massachusetts and Connecticut types infectious bronchitis (IB).

ADVANTAGES*:

- Safe to use for hatchery application
- Mild reaction
- Highly immunogenic protection against ND and broad-spectrum protection against IB
- Excellent immunity when used as a field boost

Triplevac® combines a highly immunogenic B1 type, B1 strain of ND virus with the well-established IB protection provided by the mild Massachusetts and Connecticut types IB virus. It is a lyophilized vaccine approved for spray at 1 day of age or older or drinking water vaccination at 2 weeks of age or older in chickens for protection against ND and Massachusetts and Connecticut types IB.

10 x 25,000 doses

*Data on file, Merck Animal Health

TRIPLEVAC®

Newcastle - Bronchitis Vaccine
(B_1 Type, B_1 Strain, Massachusetts and Connecticut Types Live Virus)

DESCRIPTION

This vaccine is prepared from the proven B1 strain of Newcastle disease virus and the mild Massachusetts and Connecticut types of infectious bronchitis virus. The viruses have been propageted using SPF embryonated eggs.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or 2 weeks of age or older against Newcastle disease and infectious bronchitis, Massachusetts and Connecticut types. Duration of immunity has not been established. Add For administration to healthy chickens 1 day of age or older by the coarse spray route and 2 weeks of age or older by drinking water. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining a sound vaccination program for a particular farm or poultry complex.To be fully effective, the vaccine must be administered properly to healthy, receptive birds maintained in a proper environment under good management. In addition, the response may be influenced by the age of the birds and their immune status. Seldom does one live virus vaccination under field conditions produce lifetime protection for all individuals in a given flock. The level of immunity required will vary with operational practices and the degree of exposure. Therefore, a program of periodic revaccinations may be necessary.

PREPARATION OF VACCINE

FOR DRINKING WATER OR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below.
   For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS TWO WEEKS OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE OR OLDER

Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml and 25,000 doses is 5,250 ml of nonchlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live Newcastle/Bronchitis vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F).
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. WARNING: Newcastle virus occasionally causes conjunctivitis in humans. Avoid any contact of vaccine with eyes.
12. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1791.14
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

COMBOVAC-30®

Newcastle – Bronchitis Vaccine
(B_1 Type, LaSota Strain, Massachusetts and Connecticut Types, Live Virus)

For the vaccination of chickens at 2 weeks of age or older for protection against Newcastle disease (ND) and Massachusetts and Connecticut types infectious bronchitis (IB).

ADVANTAGES*:

- Excellent immunogenicity against a wide range of ND and IB isolates
- Milder reaction than other LaSota ND, Massachusetts and Connecticut type IB vaccines
- Safe for use as a field boost to revaccinate broilers
- Long-lasting protection against both ND and IB challenge

Combovac-30® combines the unique, Clone 30 strain of ND virus with the highly immunogenic Massachusetts type IB virus (Connaught strain) and the Connecticut type IB virus. It is a lyophilized vaccine approved for spray or drinking water vaccination of chickens 2 weeks of age or older for protection against ND and Massachusetts and Connecticut types IB.

10x 10,000 doses

*Data on file, Merck Animal Health

COMBOVAC-30®

Newcastle - Bronchitis Vaccine
(B_1 Type, LaSota Strain, Massachusetts and Connecticut Types, Live Virus)

DESCRIPTION

This live virus vaccine is prepared from the proven Clone 30 strain of Newcastle disease virus and the regular Massachusetts and Connecticut types of bronchitis virus. The viruses have been propagated using SPF embryonated eggs.

Merck Animal Health's research team cloned several lentogenic ND virus strains from separate possible sub-populations within these strains. These clones were then extensively tested for immunogenicity and reactivity. One clone, designated ND Virus Clone 30, was selected and proven to be of the same order of reactivity as the classical Hitchner B1 but provided considerably better protection.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 2 weeks of age or older against Newcastle disease and infectious bronchitis virus, Massachusetts and Connecticut types. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR DRINKING WATER OR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS TWO WEEKS OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

COARSE SPRAY ADMINISTRATION

FOR CHICKENS TWO WEEKS OF AGE OR OLDER

Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 10,000 doses is 2,100 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. The revaccination of laying hens with live Newcastle/bronchitis vaccine may be detrimental to the flock.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. WARNING: Newcastle virus occasionally causes conjunctivitis in humans. Avoid any contact of vaccine with eyes.
12. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 17B1.17
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

LT-IVAX®

Fowl Laryngotracheitis Vaccine (Modified-Live Virus, Chicken Tissue Culture Origin)

For vaccination of chickens 4 weeks of age or older for protection against infectious laryngotracheitis.

ADVANTAGES*:

- Solid and uniform protection against infectious laryngotracheitis when administered via eye-drop
- Safe – more attenuated than CEO vaccines, has not been associated with vaccine induced outbreaks
- Has been shown to not spread from bird to bird in challenge-based contact controlled studies

LT-Ivax® vaccine is a live virus vaccine containing a carefully selected infectious laryngotracheitis virus strain modified by passage in tissue culture. This vaccine contains a very mild attenuated virus. For use in chickens 4 weeks of age or older for protection against infectious laryngotracheitis through immunization by the eye-drop method.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

LT-IVAX®

Fowl Laryngotracheitis Vaccine
(Modified-Live Virus, Chicken Tissue Culture Origin)

DESCRIPTION

LT-IVAX is a live virus vaccine of chicken tissue culture origin containing a carefully selected fowl laryngotracheitis virus strain modified by passage in tissue culture. Because of the highly modified character of this vaccine, it does not offer the same degree of protection usually obtained from more virulent products. This vaccine contains a very mild attenuated virus and there is no danger of seeding down the premises with laryngotracheitis virus which can spread and cause the disease.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 4 weeks of age or older against infectious fowl laryngotracheitis. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

If necessary, the vaccine may be used to aid in limiting the spread of an outbreak; *however, only birds not yet infected with the virulent outbreak virus can be protected*. Examination of birds for vaccination "takes" is unnecessary and socalled "takes" are not to be expected. As with all live virus vaccines, a mild transitory reaction may occur in a small portion of the flock, and with LT-IVAX this is generally limited to a mild, localized eye reaction of short duration.

CONTRAINDICATIONS

The application of Newcastle Disease or Bronchitis vaccines, either singly or in combination should be avoided for a three day period prior to and for three days after the application of LT-IVAX.

REHYDRATION OF THE VACCINE

FOR INTRAOCULAR USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION.
USE VACCINE IMMEDIATELY AFTER MIXING.

1. Mix only one vial at a time and use entire contents within 2 hours.
2. Remove the tear-off aluminum seal and stopper from vial containing the dried vaccine.
3. Remove the tear-off aluminum seal and stopper from the bottle containing the diluent. Insert long end of adapter into diluent bottle.
4. Hold the diluent bottle firmly in an upright position and insert the vaccine vial on the adapter of the diluent bottle. The neck of the vaccine vial should snap into position and should be seated securely on the adapter on the diluent bottle.
5. Invert the two containers so that the vaccine vial is on the bottom and allow the diluent to flow into the vaccine vial. If the diluent does not flow freely, squeeze the diluent bottle gently and the diluent will flow into the vaccine vial. The vaccine vial should be completely filled with diluent to prevent excess foaming.
6. Hold the joined containers by the ends; shake vigorously until the vaccine plug is completely dissolved.
7. Return the joined containers to their original position (diluent bottle on the bottom). Allow the vaccine to flow into the diluent bottle. If the vaccine does not flow into the diluent bottle, tap or squeeze the diluent bottle gently and release to draw the vaccine into the diluent bottle. Be sure all the product is removed from the vaccine vial.
8. Remove the vaccine vial and adapter from the neck of the diluent bottle and insert dropper applicator into plastic diluent bottle.
9. The vaccine is now ready to use.
10. Wash hands thoroughly after mixing the vaccine.

INTRAOCULAR ADMINISTRATION

FOR CHICKENS 4 WEEKS (INITIAL) AND 10 WEEKS (REVACCINATION) OF AGE
Place one full drop of vaccine into the open eye. Do not release the bird until after it has swallowed.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. An eye reaction may be noticed if birds are incubating coryza or other infectious organisms, or if there is excess ammonia or dust in the air of the housing facilities.
3. In outbreak situations, vaccinate healthy birds first, progressing toward outbreak areas in order to vaccinate diseased birds last.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8° C (35° to 46° F).
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the *vaccination and any observed reactions*.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1601.01
1 800 211-3573 (USA)
1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT

Fowl Laryngotracheitis & Marek's Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

For the vaccination of 18-day-old chicken embryos by *in ovo* administration and of healthy one-day-old chickens by subcutaneous route is effective against Marek's disease (MD) and infectious laryngotracheitis (ILT).

ADVANTAGES:*

- Provides protection against both MD and ILT
- Effective against ILT through at least 60 weeks of age when administered by the subcutaneous route
- Offers flexibility for vaccination schedules by offering *in ovo* as well as subcutaneous administration
- Eliminates respiratory vaccination reactions caused by chickens vaccinated with live conventional ILT vaccines
- Eliminates an increase in vaccination reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreak

Innovax®-ILT is a frozen, live, cell-associated laryngotracheitis and MD vaccine. It provides proven protection against ILT and MD. It is approved for *in ovo* administration to 18-day-old chicken embryos and by subcutaneous vaccination of healthy one-day-old chickens.
Innovax-ILT contains recombinant turkey herpes virus used as a vector for the expression of 2 glycoprotein genes from laryngotracheitis virus.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

INNOVAX®-ILT

Fowl Laryngotracheitis & Marek's Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against Marek's disease and infectious laryngotracheitis. Duration of immunity has been shown to be at least 60 weeks by the subcutaneous route and 10 weeks by the *in ovo* route for infectious laryngotracheitis. Duration of Immunity has not been established for Marek's Disease. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16J1.R1
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens to provide protection against infectious bursal disease, infectious laryngotracheitis and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ILT, IBD and Marek's disease
- New! Provides protection for variant IBD when given by the *in ovo* route of administration
- Removes the potential for respiratory reactions due to live ILT vaccines
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fi t any vaccination schedule
- Prevents vaccine induced ILT outbreaks

Innovax®-ILT-IBD is a frozen, live, cell-associated ILT, IBD and Marek's vaccine. It provides proven protection against ILT, IBD and Marek's disease. It is approved for *in ovo* injection of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-19-Day-Old Embryonated Chicken Eggs and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from infectious laryngotracheitis virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-19 day-old embryonated chicken eggs, or one-day-old chickens, against Marek's disease, infectious laryngotracheitis and standard infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

Inject 0.2 mL per chick for the subcutaneous route or 0.05 – 0.1 mL per embryonated chicken egg for the in ovo route.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximumof 4 ampules at a time. The remaining ampules should be replaced immediately inthe canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per embryonated chicken egg or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per embryonated chicken egg by the in ovo route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-19-day-old embryonated chicken egg with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1J81.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Newcastle disease (ND), infectious laryngotracheitis (ILT) and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ND, ILT and Marek's disease.
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND and ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreaks
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection

Innovax®-ND-ILT is a frozen, live, cell-associated ND, ILT and Marek's vaccine. It provides proven protection against virulent ND virus, ILT and Marek's. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease and infectious laryngotracheitis. Duration of Immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and Infectious Laryngotracheitis for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains Gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN/PCN 165A/1C91.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

MYCOVAC-L®

Mycoplasma Gallisepticum Vaccine
(Live Culture)

For the vaccination of chickens at 6 weeks of age or older to provide protection against *Mycoplasma gallisepticum* (MG).

ADVANTAGES*:

- Highly immunogenic, with very mild reaction
- Not pathogenic to turkeys
- Does not spread to adjacent chicken houses
- No ovarian transmission
- Serum will not convert MG plate antigen: easy to distinguish vaccine response from field infection

Mycovac-L® is the patented, live 6/85 strain of MG. The safe, highly immunogenic, lyophilized vaccine is for use via coarse spray in chickens for protection against losses associated with MG infection.

10 x 2,000 doses

*Data on file, Merck Animal Health

MERCK
Animal Health

MYCOVAC-L®

Mycoplasma Gallisepticum Vaccine
(Live Culture)

DESCRIPTION

This vaccine is a live vaccine, prepared from the Intervet 6/85 strain of *Mycoplasma gallisepticum* in a freeze dried preparation sealed under vacuum. The 6/85 strain is unique in that it is highly immunogenic for chickens and non-pathogenic for turkeys, does not readily spread to adjacent houses of chickens and is biologically stable. This vaccine has been propagated under exacting standards. The immunizing capability of this vaccine has been proven by various procedures including the Master Seed Immunogenicity Test.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 6 weeks of age or older against *M. gallisepticum*. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

COARSE SPRAY ADMINISTRATION

FOR CHICKENS SIX WEEKS OF AGE OR OLDER
Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 2,000 doses is 420 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Do not medicate chickens with antibacterial drugs five days prior to or after vaccination.
4. The 6/85 strain of MG is not pathogenic for turkeys, but care should be taken in the application of the vaccine and handling of the chickens so as to maintain very tight disease security.
5. This vaccine should not be administered within two weeks of any live Newcastle, bronchitis or laryngotracheitis vaccination.
6. Do not administer this vaccine within four weeks of onset of egg production or after egg production has begun.
7. 7Use entire contents when first opened.
8. Do not vaccinate within 21 days before slaughter.
9. Store at 2° to 8°C (35° to 46°F). Do not freeze.
10. Inactivate unused contents before disposal.
11. Do not mix with other products, except as specified on this label.
12. This vaccine is to be used only in states where its usage is permitted and is to be used in compliance with applicable state and federal regulations.
13. In case of human exposure, contact a physician.
14. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
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VLN 165A/PCN 1751.01
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

3.0 DYNAMIC IMMUNITY

PRODUCT BULLETIN

MAREXINE SB VAX™

Marek's Disease Vaccine
(Serotype 2, Live Virus)

This vaccine has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos against very virulent Marek's disease.

ADVANTAGES*:

- Rapid virus replication to induce early protection
- Convenient 4,000 dose ampules

Marexine SB Vax™ is a frozen, cell associated, live virus Marek's disease vaccine for the use of 18-day-old chicken embryos via *in ovo*. This vaccine contains the SB-1 strain of chicken herpesvirus serotype 2, and its rapid early replication provides optimal protection against early, very virulent Marek's disease challenge.

4,000 dose ampules

*Data on file, Merck Animal Health

MAREXINE SB VAX™

Marek's Disease Vaccine
(Serotype 2, Live Virus)

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the SB-1 strain of chicken herpesvirus serotype 2. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This vaccine has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos against very virulent Marek's disease. Duration of Immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the in ovo route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In-ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains Gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16N1.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

RISMAVAC®

Marek's Disease Vaccine (Serotype 1, Live Virus)

For the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens to aid in the prevention of very virulent Marek's disease.

ADVANTAGES*:

- Low passage Rispens strain vaccine for maximum efficacy against virulent MD challenge strains
- Rapid virus replication to induce early protection
- Data demonstrates compatibility with Innovax® ILT vaccine

Rismavac® is a low passage, frozen, live, cell-associated Marek's disease vaccine for use in 18-day-old chicken embryos via *in ovo* and one-day-old chickens by subcutaneous injection. Its rapid early replication provides optimal protection against early, very virulent Marek's disease challenge.

2,000 dose ampules

*Data on file, Merck Animal Health

RISMAVAC®

Marek's Disease Vaccine
(Serotype 1, Live Virus)

Frozen

For *In Ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

RISMAVAC® is a frozen, cell associated, live virus vaccine that contains the low passage CVI 988 strain of chicken herpesvirus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against very virulent Marek's disease. Duration of Immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).
When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.
Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. **IMPORTANT:** THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16L1.00
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Newcastle disease (ND), infectious laryngotracheitis (ILT) and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ND, ILT and Marek's disease.
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND and ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreaks
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection

Innovax®-ND-ILT is a frozen, live, cell-associated ND, ILT and Marek's vaccine. It provides proven protection against virulent ND virus, ILT and Marek's. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

INNOVAX®-ND-ILT

Infectious Laryngotracheitis - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease and infectious laryngotracheitis. Duration of Immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and Infectious Laryngotracheitis for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains Gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN/PCN 165A/1C91.R0
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Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Marek's disease, Newcastle disease, standard and variant infectious bursal disease.

ADVANTAGES:*

- Provides protection for virulent ND, IBD and Marek's disease
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Shown to be effective against standard and variant infectious bursal disease challenge

Innovax®-ND-IBD is a frozen, live, cell-associated Marek's, ND and IBD vaccine. It provides proven protection against Marek's, virulent ND virus, and both standard and variant strains of IBD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This vaccine has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease, standard and variant infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In-ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and bursal disease for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos or chickens should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1A89.R1
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Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND

Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

ADVANTAGES:*

- Provides extended protection for virulent Newcastle disease (ND) and Marek's disease (MD)
- Effective against ND through at least 60 weeks of age, via the subcutaneous route of administration
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- Allows the use of monovalent infectious bronchitis (IB) vaccines, improving IB protection
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule

Innovax®-ND is a frozen, live, cell-associated ND and MD vaccine. It provides proven protection against virulent ND virus and MD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX® -ND

Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against Marek's disease and Newcastle disease. Duration of immunity has been shown to be at least 60 weeks by the subcutaneous route and 10 weeks by the *in ovo* route for Newcastle Disease. Duration of Immunity has not been established for Marek's Disease. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16N1.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens to provide protection against infectious bursal disease, infectious laryngotracheitis and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ILT, IBD and Marek's disease
- New! Provides protection for variant IBD when given by the *in ovo* route of administration
- Removes the potential for respiratory reactions due to live ILT vaccines
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fi t any vaccination schedule
- Prevents vaccine induced ILT outbreaks

Innovax®-ILT-IBD is a frozen, live, cell-associated ILT, IBD and Marek's vaccine. It provides proven protection against ILT, IBD and Marek's disease. It is approved for *in ovo* injection of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-19-Day-Old Embryonated Chicken Eggs and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from infectious laryngotracheitis virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-19 day-old embryonated chicken eggs, or one-day-old chickens, against Marek's disease, infectious laryngotracheitis and standard infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

Inject 0.2 mL per chick for the subcutaneous route or 0.05 – 0.1 mL per embryonated chicken egg for the in ovo route.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximumof 4 ampules at a time. The remaining ampules should be replaced immediately inthe canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per embryonated chicken egg or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per embryonated chicken egg by the in ovo route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-19-day-old embryonated chicken egg with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1J81.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT

Fowl Laryngotracheitis & Marek's Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

For the vaccination of 18-day-old chicken embryos by *in ovo* administration and of healthy one-day-old chickens by subcutaneous route is effective against Marek's disease (MD) and infectious laryngotracheitis (ILT).

ADVANTAGES:*

- Provides protection against both MD and ILT
- Effective against ILT through at least 60 weeks of age when administered by the subcutaneous route
- Offers flexibility for vaccination schedules by offering *in ovo* as well as subcutaneous administration
- Eliminates respiratory vaccination reactions caused by chickens vaccinated with live conventional ILT vaccines
- Eliminates an increase in vaccination reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- Prevents vaccine induced ILT outbreak

Innovax®-ILT is a frozen, live, cell-associated laryngotracheitis and MD vaccine. It provides proven protection against ILT and MD. It is approved for *in ovo* administration to 18-day-old chicken embryos and by subcutaneous vaccination of healthy one-day-old chickens.
Innovax-ILT contains recombinant turkey herpes virus used as a vector for the expression of 2 glycoprotein genes from laryngotracheitis virus.

2,000 dose ampules
4,000 dose ampules

*Data on file, Merck Animal Health

INNOVAX®-ILT

Fowl Laryngotracheitis & Marek's Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from laryngotracheitis virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos, or one-day-old chickens, against Marek's disease and infectious laryngotracheitis. Duration of immunity has been shown to be at least 60 weeks by the subcutaneous route and 10 weeks by the *in ovo* route for infectious laryngotracheitis. Duration of Immunity has not been established for Marek's Disease. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 16J1.R1
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

89/03®

Bursal Disease Vaccine (Variant Strain, Live Virus)

For vaccination of healthy chickens for the prevention of disease due to infectious bursal disease (IBD) virus caused by standard, Delaware, or GLS strains of IBD.

ADVANTAGES:*

- The first live IBD vaccine for day of age use that fully protects against standard, Delaware and GLS IBD strains
- The only attenuated IBD vaccine that retains all Delaware-variant characteristics including reaction with the neutralizing 67 monoclonal antibody marker
- Safe for use *in ovo*
- Data demonstrates safe for subcutaneous use at day of age with serotypes 2 and 3 Marek's disease vaccines
- Does not spread bird-to-bird or revert to virulence
- No bursal damage and resultant immunosuppression

89/03® is a frozen vaccine which contains the unique, patented 89/03 strain of IBD virus. It provides strong protection against standard IBD virus as well as Delaware and GLS IBD variants and is approved for use *in ovo* in 18-day-old chicken embryos and subcutaneous injection in one-day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

89/03®

Bursal Disease Vaccine
(Variant Strain, Live Virus)

FROZEN

For *in ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

89/03® is a frozen, live virus vaccine that contains the 89/03 strain of infectious bursal disease virus (IBDV). 89/03 is a Delaware variant type IBDV. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or chickens 1 day of age or older against standard and variant infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES - Store in liquid nitrogen container.
DILUENT - Do not freeze.
CONTAINER - Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen).

When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine with diluent for administration. Use 100 ml of sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml of sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

NOTICE

This vaccine has undergone rigid potency and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 12L1.00
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

UNIVAX-BD®

Bursal Disease Vaccine
(Live Virus, Chicken Tissue Culture Origin)

MERCK Animal Health

For vaccination of healthy chickens one day of age or older and to 18 to 19 day chicken embryos for the prevention of infectious bursal disease (IBD).

ADVANTAGES*:

- Produces broad protection against subclinical challenge without destroying future immunization capabilities
- Approved for *in ovo* use in 18 to 19 day chicken embryos
- Approved for day of age by subcutaneous route of administration or by drinking water to birds 1 week of age or older
- Highly antigenic, mild reacting, plaque-purified virus for consistent protection
- Ideal product for *in ovo* or day of age application

Univax-BD® vaccine is a live virus vaccine containing a carefully selected mild strain of bursal disease virus grown in chicken tissue culture and combined with stabilizing agents. The product is supplied as a lyophilized vaccine contained in vials sealed under vacuum.

10 x 5,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

UNIVAX-BD®

Bursal Disease Vaccine
(Live Virus, Chicken Tissue Culture Origin)

DESCRIPTION

This vaccine is a live virus vaccine containing a carefully selected mild strain of bursal disease virus grown in tissue culture and combined with stabilizing agents. The product is supplied as a lyophilized vaccine contained in vials sealed under vacuum.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18 to 19 days of age chicken embryos or chickens 1 day of age or chickens 1 week of age or older against infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF THE VACCINE

FOR *IN OVO* OR SUBCUTANEOUS USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Do not open and mix the vaccine until ready for use.
2. Mix only one vial at a time and use entire contents within 2 hours.
3. Dilute the vaccine with diluent for administration. Use 100 ml of sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml of sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
4. Lift top of seal on vaccine vial to expose rubber stopper. Use 10mL syringe mounted with sterile 18 gauge needle to take 5 mL of diluent from diluent bag and transfer to vaccine vial.
5. Vigorously shake vaccine vial with transferred diluent to rehydrate the vaccine.
6. Use same sterile needle and syringe to completely transfer rehydrated vaccine to diluent bag. Rinse syringe and vaccine vial by withdrawing additional diluent from bag and repeat the process.
7. Vigorously shake final rehydrated vaccine for 20-30 seconds to mix thoroughly.
8. The vaccine is now ready for use.

IN OVO OR SUBCUTANEOUS ADMINISTRATION

FOR CHICKENS EMBRYOS 18 TO 19 DAYS OF AGE OR CHICKENS 1 DAY OF AGE

For *in ovo* administration: inoculate each 18 to 19 day-old chicken embryo with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).

PREPARATION OF VACCINE

FOR DRINKING WATER USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS ONE WEEK OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administration and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use only in states (U.S.) where permitted and on premises with a history of bursal disease.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1271.00
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

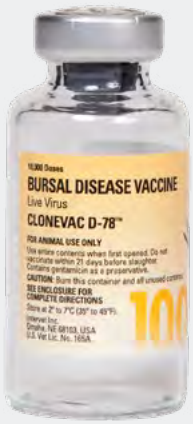
CLONEVAC D-78®

Bursal Disease Vaccine
(Live Virus)

For the vaccination of chickens at 1 day of age or older by coarse spray application for the prevention of infectious bursal disease (IBD). It may also serve as a live virus primer of replacement pullets for subsequent vaccination with inactivated IBD vaccine.

ADVANTAGES*:

- D-78 strain of IBD virus is derived from a natural field strain; it has not been attenuated by tissue culture or egg passage
- Data demonstrates capacity to overcome moderate levels of maternal antibody to induce strong, early protection
- Produces minimal damage to the bursa
- Safe to use in chickens at 1 day of age



Clonevac D-78® is a lyophilized live, cloned intermediate vaccine for the control of IBD in young chickens. It is approved for use in chickens 1 day of age or older via coarse spray application or 2 weeks of age or older via drinking water.

10 x 10,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

CLONEVAC D-78®

Bursal Disease Vaccine
(Live Virus)

This vaccine contains an intermediate strain of Infectious Bursal Disease (IBD) Virus propagated in SPF (Specific Pathogen Free) substrates. This strain was developed from a bursal disease field isolate.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or 2 weeks of age or older against infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Immune status, general health, and field exposure to IBD virus must be assessed to develop an effective program. Immunological priming of breeder replacement chickens can be accomplished at 10 to 12 weeks of age, followed by the use of an inactivated vaccine at 18 to 20 weeks of age.

PREPARATION OF VACCINE

FOR DRINKING WATER OR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS TWO WEEKS OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administration and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

COARSE SPRAY VACCINATION

FOR CHICKENS ONE DAY OF AGE OR OLDER

Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 1,000 doses is 210 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use entire contents when first opened.
4. Do not vaccinate within 21 days before slaughter.
5. Store at 2° to 8° C (35° to 46° F).
6. Inactivate unused contents before disposal.
7. Do not mix with other products, except as specified on this label.
8. In case of human exposure, contact a physician.
9. Contains gentamicin as a preservative.
10. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1271.17
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

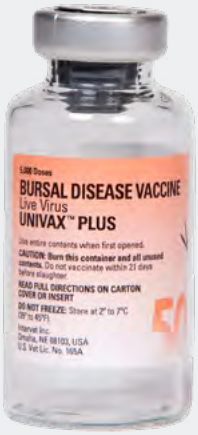
UNIVAX® PLUS

Bursal Disease Vaccine
(A Blend of a Tissue Culture Intermediate Strain and a Chick Embryo Origin Intermediate Strain, Live Virus)

For vaccination of healthy chickens 2 weeks of age or older for the prevention of infectious bursal disease (IBD) caused by standard and variant bursal disease viruses.

ADVANTAGES*:

- Contains 2 specially selected intermediate IBD strains, each of which is plaque purified for specificity and consistency
- The combined strains provide broad-spectrum protection against a wide variety of economically significant field strains of standard and variant bursal disease viruses
- Produces broad protection against standard and variant IBD strains without destroying future immunization capabilities
- Highly antigenic
- Mild reacting, safe for use in broilers, pullets, breeders



Univax® Plus is a live virus vaccine containing a blend of 2 carefully selected intermediate strains of bursal disease viruses. The first strain (ST-12) is grown in tissue culture and the other (51A/C4) is grown in chicken embryos. Both strains are combined with stabilizing agents. The product is supplied as a lyophilized vaccine contained in sealed vials.

For use in chickens at 2 weeks of age or older by drinking water against IBD.

10 x 5,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

UNIVAX® PLUS

Bursal Disease Vaccine
(A Blend of a Tissue Culture Intermediate Strain and a Chick Embryo Origin Intermediate Strain, Live Virus)

DESCRIPTION

This vaccine contains a blend of two carefully selected intermediate strains of bursal disease viruses. One of the strains (ST-12) is grown in tissue culture and the other one (51A/C4) is grown in chicken embryos.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 2 weeks of age or older against infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR DRINKING WATER USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS TWO WEEKS OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use only in states (U.S.) where permitted and on premises with a history of bursal disease.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1271.41
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

BURSA-VAC®

Bursal Disease Vaccine (Live Virus)

For vaccination of healthy chickens 7 to 14 days of age against infectious bursal disease (IBD) and to maximize response to subsequent inactivated IBD vaccines.

ADVANTAGES*:

- Stimulates stronger immune response than intermediate IBD vaccines
- Ensures maximum response to vaccination with inactivated IBD vaccines
- An essential component of a broiler breeder vaccination program when high parental IBD titers are desired in the progeny

Bursa-Vac® vaccine is a live virus vaccine of chicken embryo origin containing a classic strain of infectious bursal virus. It induces a strong immune response and ensures maximum response to vaccination with inactivated IBD vaccines.

10 x 1,000 doses
10 x 5,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

BURSA-VAC®

Bursal Disease Vaccine
(Live Virus)

DESCRIPTION

This vaccine contains an attenuated strain of bursal disease (IBD) virus.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 7-14 days of age against infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR DRINKINGWATER USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTERMIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS 7-14 DAYS OF AGE

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use entire contents when first opened.
4. Do not vaccinate within 21 days before slaughter.
5. Store at 2° to 8°C (35° to 46°F).
6. Inactivate unused contents before disposal.
7. Do not mix with other products, except as specified on this label.
8. In case of human exposure, contact a physician.
9. Contains gentamicin as a preservative.
10. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunitywhen used as directed, but the usermust be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1271.19
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens to provide protection against Marek's disease, Newcastle disease, standard and variant infectious bursal disease.

ADVANTAGES:*

- Provides protection for virulent ND, IBD and Marek's disease
- Data demonstrates protection in the face of ND virus maternal antibodies
- Replaces a conventional live ND vaccination program in the absence of exotic ND
- Removes the potential for respiratory reactions due to live ND vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fit any vaccination schedule
- Shown to be effective against standard and variant infectious bursal disease challenge

Innovax®-ND-IBD is a frozen, live, cell-associated Marek's, ND and IBD vaccine. It provides proven protection against Marek's, virulent ND virus, and both standard and variant strains of IBD. It is approved for *in ovo* injection of 18-day-old chicken embryos and subcutaneous vaccination of one-day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ND-IBD

Infectious Bursal Disease - Marek's Disease - Newcastle Disease Vaccine
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In ovo* Vaccination of 18-Day-Old Chicken Embryos and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with the F gene from Newcastle disease virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This vaccine has been shown to be effective for the vaccination of healthy 18-day-old chicken embryos or one-day-old chickens against Marek's disease, Newcastle disease, standard and variant infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, go to productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel who are thoroughly conversant with the Union Carbide publication and instruction booklet regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately.

Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER. STERILIZE VACCINATING EQUIPMENT BY BOILING IN WATER FOR 30 MINUTES OR BY AUTOCLAVING 20 MINUTES AT 121°C (250°F). DO NOT USE CHEMICAL DISINFECTANTS.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampule to be used immediately. We recommend handling only one ampule at a time. After removing the ampule from the cane, the remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per chicken embryo or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per chicken embryo by the *in ovo* route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. The contents of the filled syringe are then added to remaining diluent. It is important that this be done slowly. Slowly empty the syringe, allowing the vaccine to run down the side of the diluent container. Gently agitate the container as the vaccine is being mixed. Withdraw a portion of the diluent with the syringe to flush ampule. Remove the remaining diluent from the ampule and inject gently into the diluent container. Remove the syringe.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

In-ovo Administration:

1. Inoculate each 18-day-old chicken embryo with a full dose (0.05 ml or 0.1ml).
2. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

Subcutaneous Administration:

1. Hold the chicken by the back of the neck just below the head. The loose skin in the area is raised by gently pinching with the thumb and forefinger. Insert the needle beneath the skin in a downward direction away from the head. Inject 0.2 ml per chicken.
2. Avoid hitting the muscles and bones in the neck.
3. Entire contents of container must be used within 1 hour after mixing or be discarded according to caution statement No. 11.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

CAUTION

Good management practices are recommended to reduce exposure to Marek's disease and bursal disease for at least three weeks following vaccination. Therefore, directions should be followed carefully.

1. Do not mix any substance with this vaccine. Do not mix with other products, except as specified on this label.
2. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
3. Gloves and visor should be worn when handling liquid nitrogen.
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not dilute or otherwise stretch the dosage of this vaccine.
6. Once mixed with diluent, the vaccine should be gently agitated frequently.
7. Once mixed with diluent, the vaccine should be used within 1 hour.
8. Only healthy chicken embryos or chickens should be vaccinated.
9. Do not vaccinate within 21 days before slaughter.
10. This vaccine contains gentamicin as a preservative.
11. Inactivate unused contents before disposal.
12. In case of human exposure, contact a physician.
13. FOR ANIMAL USE ONLY.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1A89.R1
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease (Serotype 3, Live Marek's Disease Vector)

MERCK Animal Health

For *in ovo* vaccination of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens to provide protection against infectious bursal disease, infectious laryngotracheitis and Marek's disease.

ADVANTAGES:*

- Provides protection for virulent ILT, IBD and Marek's disease
- New! Provides protection for variant IBD when given by the *in ovo* route of administration
- Removes the potential for respiratory reactions due to live ILT vaccines
- Eliminates an increase in vaccine reactions from other respiratory vaccines
- Eliminates latency, persistence, and spread caused by chickens vaccinated with live conventional ILT vaccines
- No vaccine reactions observed in safety trials for improved bird performance
- Offers flexible administration via *in ovo* or subcutaneous injection to fi t any vaccination schedule
- Prevents vaccine induced ILT outbreaks

Innovax®-ILT-IBD is a frozen, live, cell-associated ILT, IBD and Marek's vaccine. It provides proven protection against ILT, IBD and Marek's disease. It is approved for *in ovo* injection of 18-19-day-old embryonated chicken eggs and subcutaneous vaccination of day-old chickens.

4,000 dose ampules

*Data on file, Merck Animal Health

MERCK Animal Health

INNOVAX®-ILT-IBD

Infectious Bursal Disease – Infectious Laryngotracheitis - Marek's Disease
(Serotype 3, Live Marek's Disease Vector)

FROZEN

For *In Ovo* Vaccination of 18-19-Day-Old Embryonated Chicken Eggs and Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This vaccine is a frozen, cell associated, live virus vaccine that contains the recombinant serotype 3 turkey herpesvirus with genes from infectious laryngotracheitis virus and with the VP2 gene from infectious bursal disease virus. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy 18-19 day-old embryonated chicken eggs, or one-day-old chickens, against Marek's disease, infectious laryngotracheitis and standard infectious bursal disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

Inject 0.2 mL per chick for the subcutaneous route or 0.05 – 0.1 mL per embryonated chicken egg for the in ovo route.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximumof 4 ampules at a time. The remaining ampules should be replaced immediately inthe canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 100 ml sterile diluent for each 1,000 doses of vaccine to administer 0.1 ml dose per embryonated chicken egg or use 50 ml for each 1,000 doses of vaccine to administer 0.05 ml per embryonated chicken egg by the in ovo route. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe or egg inoculation machine according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For *in ovo* administration: inoculate each 18-19-day-old embryonated chicken egg with a full dose (0.05 ml or 0.1ml). For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS AND CHICKEN EMBRYOS.
2. Do not mix with other products, except as specified on this label.
3. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
4. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
5. Do not vaccinate within 21 days before slaughter.
6. Contains gentamicin as a preservative.
7. Inactivate unused contents before disposal.
8. In case of human exposure, contact a physician.
9. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1J81.R0
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

CAV-VAC®

Chicken Anemia Virus Vaccine (Modified-Live Virus)

For the vaccination of breeder replacement chickens to provide protection against chicken infectious anemia in their progeny.

ADVANTAGES*:

- First USDA licensed chicken anemia virus (CAV) vaccine
- Safe to use in young, antibody negative chickens
- Induces high levels of protective antibodies for long-term protection of parent flocks and their progeny against chicken infectious anemia
- Provides uniform flock protection
- Does not require addition of diluent

CAV-VAC® is a live virus vaccine prepared from a modified U.S. field isolate of CAV. It is approved for use in breeder pullets 10 to 12 weeks of age via the wing-web inoculation method.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

CAV-VAC®

Chicken Anemia Virus Vaccine
(Modified-Live Virus)

DESCRIPTION

This vaccine is a live virus vaccine, prepared from a modified U.S. field isolate. The vaccine is produced using specific pathogen free (SPF) substrates, and contains live chicken anemia vaccine virus suspended in wing web diluent.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 10 to 12 weeks of age to provide passive immunity against chicken anemia virus to progeny. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

WARNING: USE OF THIS PRODUCT IN CHICKENS YOUNGER THAN THREE WEEKS OF AGE MAY CAUSE CLINICAL SIGNS OF CHICKEN ANEMIA. DO NOT VACCINATE BREEDER CHICKENS IN LAY.

PREPARATION OF VACCINE

DO NOT OPEN THE VACCINE UNTIL READY TO BEGIN VACCINATION.
USE VACCINE IMMEDIATELY AFTER OPENING.

1. SHAKE WELL
2. Remove the tear-off seal and stopper from the vaccine vial. Vaccine is now ready for use.

WING-WEB ADMINISTRATION

FOR CHICKENS FROM 10 TO 12 WEEKS OF AGE

1. Vaccine is applied to the web of the wing. Use the enclosed two-pronged applicator.
2. A dose of 0.01 mL should be administered to each bird by dipping the applicator in the vaccine mixture, allowing the applicator grooves to fill with liquid, and stabbing the webbed portion of the wing from beneath. Avoid feathered areas of the web.
3. Periodically during use, re-insert stopper and shake vaccine well.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Following vaccination, virus may be shed in the feces. Thus, care should be taken to avoid spread of the vaccine virus to young chickens or unexposed chickens in lay.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter or 6 weeks prior to onset of or during lay.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin and amphotericin B as preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens, and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 10A1.10
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

TREMVAC®-FP-CAV

Avian Encephalomyelitis - Fowl Pox & Chicken Anemia Virus Vaccine (Live and Modified-Live Virus)

For the vaccination of chickens at 10 to 12 weeks of age against fowl pox and avian encephalomyelitis (AE) in breeders and chicken infectious anemia (CIA) in the progeny of breeder replacements.

ADVANTAGES*:

- Excellent protection against infection with AE and fowl pox viruses
- The original Calnek strain of AE provides dependable immune response with consistent antibody titer
- Demonstrable efficacy with reliable development of “takes” at 7 days post-vaccination
- Induces high levels of protective antibodies for long-term protection of parent flocks and their progeny against CIA
- Provides uniform flock protection
- Combined product reduces vaccination costs

Tremvac®-FP-CAV is a combination packaged live vaccine for use in breeder pullets and egg layers to protect against clinical disease due to AE and fowl pox and to provide passive immunity against chicken anemia virus infection to the progeny of vaccinated breeders. It is approved for wing-web inoculation.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

TREMVAC®-FP-CAV

Avian Encephalomyelitis - Fowl Pox & Chicken Anemia Virus Vaccine
(Live and Modified-Live Virus)

DESCRIPTION

This vaccine is a live virus vaccine containing avian encephalomyelitis virus prepared from the Calnek strain, a modified fowl pox virus, and chicken anemia virus prepared from a modified U.S. field isolate. The vaccine is packaged in two separate units. One is a vial containing freeze-dried avian encephalomyelitis virus and fowl pox virus (**TREMVAC®-FP**). The second is a vial containing chicken anemia virus suspension (**CAV-VAC®**) to be used as the wing web diluent.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 10 to 12 weeks of age against avian encephalomyelitis, fowl pox disease and to provide passive immunity against chicken anemia virus to progeny. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

WARNING: USE OF THIS PRODUCT IN CHICKENS YOUNGER THAN THREE WEEKS OF AGE MAY CAUSE CLINICAL SIGNS OF CHICKEN ANEMIA. DO NOT VACCINATE BREEDER CHICKENS IN LAY.

PREPARATION OF VACCINE

DO NOT OPEN THE VACCINE UNTIL READY TO BEGIN VACCINATION .
USE VACCINE IMMEDIATELY AFTER OPENING.

1. Remove the tear-off seal and stopper from the vial containing the freeze-dried **TREMVAC®-FP**.
2. Remove the seal and stopper from the **CAV-VAC®** vial.
3. Pour one-half of the **CAV-VAC®** from the vial into **TREMVAC®-FP** vial. Insert the rubber stopper and shake until dissolved.
4. Pour the dissolved **TREMVAC®-FP** into the **CAV-VAC®** vial. Re-insert the rubber stopper and shake well. The vaccine is now ready for use.

WING-WEB ADMINISTRATION

FOR CHICKENS FROM 10 TO 12 WEEKS OF AGE

1. Vaccine is applied to the web of the wing. Use the enclosed twopronged applicator.
2. A dose of 0.01 mL should be administered to each bird by dipping the applicator in the vaccine mixture, allowing the applicator grooves to fill with liquid, and stabbing the webbed portion of the wing from beneath. Avoid feathered areas of the web.
3. Periodically during use, re-insert stopper and shake vaccine well.
4. At about 7 to 10 days after vaccination, a few birds should be examined for takes. A good take reaction, indicating that a satisfactory vaccination job was done, shows swelling in the skin at the point of vaccination with scab formation. The scabs will fall off about 2 to 3 weeks following vaccination.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Following vaccination, virus may be shed in the feces. Thus, care should be taken to avoid spread of the vaccine virus to young chickens or unexposed chickens in lay.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter or 6 weeks prior to onset of or during lay.
6. Store at 2° to 8°C (35° to 46°F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin and amphotericin B as preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 10T1.40
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

2177®

Tenosynovitis Vaccine (Live Virus)

For the vaccination of chickens 1 day of age for the prevention of reovirus associated diseases.

ADVANTAGES*:

- Safe for use in day of age broilers
- Natural non-pathogenic strain is not attenuated and cannot revert to virulence
- No interference with serotype 2 and serotype 3 Marek's disease vaccines
- Excellent protection against virulent challenge with reovirus
- Data demonstrates protection in the presence of maternal antibody

2177® is a patented, natural non-pathogenic 2177 strain of reovirus. This frozen vaccine is for use in broilers, broiler breeder replacements or pullets 1 day of age via subcutaneous injection for the prevention of reovirus diseases.

2,000 dose ampules

*Data on file, Merck Animal Health

2177®

Tenosynovitis Vaccine
(Live Virus)

Frozen
For Subcutaneous Vaccination of Day Old Chickens

DESCRIPTION

This live virus vaccine is a frozen, live virus vaccine that contains the 2177 strain of avian reovirus. 2177 is a naturally apathogenic avian reovirus originally isolated from commercial chickens. The vaccine is packaged in glass ampules and supplied with diluent packaged in a separate container. The vaccine ampules are inserted in metal canes, stored and shipped in a liquid nitrogen container.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age against tenosynovitis/viral arthritis. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

IMPORTANT: STORAGE CONDITIONS

AMPULES: Store in liquid nitrogen container.
DILUENT: Do not freeze.
CONTAINER: Store liquid nitrogen container securely in upright position in a dry, well ventilated area and away from incubator intakes and chicken boxes.

SAFETY PRECAUTIONS

Liquid nitrogen container and vaccine should be handled only by properly trained personnel regarding the use of, precautions and safe practices for liquefied atmospheric gases (particularly liquid nitrogen). When removing ampule cane, handling frozen ampules, or adding liquid nitrogen, wear long sleeves, a plastic face shield and gloves to protect the skin from contact with the liquid nitrogen. All storage and handling of the liquid nitrogen container must be in a dry, ventilated area. Do not inhale liquid nitrogen vapors. If drowsiness occurs, get fresh air quickly; then ventilate entire area. If breathing difficulty occurs, apply artificial respiration. If any of these difficulties persist or there is a loss of consciousness, summon a physician immediately. Care should be exercised to prevent contaminating your hands, eyes and clothing with the vaccine.

PREPARATION OF VACCINE

CAUTION: READ ABOVE SAFETY PRECAUTIONS ON HANDLING VACCINE AMPULE. AMPULES HAVE BEEN KNOWN TO EXPLODE ON SUDDEN TEMPERATURE CHANGES. DO NOT THAW IN HOT OR ICE COLD WATER.

1. Before withdrawing vaccine from liquid nitrogen canister, protect hands with gloves, wear long sleeves and use a facemask or goggles. It is possible an accident could occur with either the liquid nitrogen or the ampules of vaccine. When removing an ampule from the cane, hold palm of gloved hand away from body and face.
2. When withdrawing a cane of ampules from canister in liquid nitrogen container, expose only the ampules to be used immediately. We recommend handling a maximum of 4 ampules at a time. The remaining ampules should be replaced immediately in the canister of the liquid nitrogen container.
3. The contents of the ampule are thawed rapidly by immersing in a container of clean water at a temperature range of 20-30°C (68-86°F). Once the vaccine has thawed remove ampule from water bath. Gently swirl the ampule to disperse contents. Then break ampule at its neck and immediately proceed as below.
4. Dilute the vaccine for administration. Use 200 ml sterile diluent for each 1,000 doses of vaccine to administer 0.2 ml dose per chicken by the subcutaneous route.
5. Draw contents of ampule into a sterile 10 ml syringe, mounted with an 18 gauge needle.
6. Dilute immediately by filling the syringe slowly with a portion of the diluent. IMPORTANT: THE DILUENT SHOULD BE AT ROOM TEMPERATURE 16-27°C (60-80°F) AT TIME OF MIXING.
7. Slowly empty the syringe into the prepared diluent bag. Withdraw a portion of the diluent with the syringe to rinse ampule. Remove the remaining diluent from the ampule and inject gently into the diluent bag. Mix gently.
8. Fill the previously sterilized automatic syringe according to the manufacturer's recommendations.
9. The vaccine is now ready for use.

METHOD OF VACCINATION

1. For subcutaneous administration: inoculate each day-old chicken with a full dose (0.2 ml).
2. Use entire contents of diluent bag within 1 hour after mixing.
3. After reconstitution, the vaccine should be kept cool and gently agitated frequently.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use entire contents when first opened.
4. Do not vaccinate within 21 days before slaughter.
5. Store vaccine in liquid nitrogen at a temperature below -150°C (-238°F).
6. ONCE THAWED, THE PRODUCT SHOULD NOT BE REFROZEN.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. Contains gentamicin as a preservative.
11. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VVLN 165A/PCN 1951.11
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

ENTEROVAX®

Tenosynovitis (Viral Arthritis) Vaccine (Modified-Live Virus)

For vaccination of healthy chickens against reovirus-induced tenosynovitis (viral arthritis) in broilers, roasters, and breeders.

ADVANTAGES*:

- Provides strong immunity against viral arthritis (tenosynovitis) caused by reovirus
- SAFE. The mild-reacting strain will not cause lameness or mortality when used as directed
- Approved for coarse spray administration at day of age or by drinking water to birds 1 week of age or older
- Ideal for use in breeder replacement and broiler flocks carried to heavier weights

Enterovax® vaccine is a coarse spray and/or drinking water vaccine developed to be effective against viral arthritis (tenosynovitis) which causes serious leg problems and economic loss in broiler, roaster, and breeder flocks. It is ideal for use in flocks where birds are carried to heavier weights. May be safely administered to birds by coarse spray at day of age or by drinking water to birds 7 days of age or older.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

ENTEROVAX®

Tenosynovitis (Viral Arthritis) Vaccine
(Modified-Live Virus)

DESCRIPTION

ENTEROVAX Vaccine is a live vaccine containing an avian reovirus (tenosynovitis biotype) in a freeze-dried preparation sealed under vacuum.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 1 day of age or 1 week of age or older against reovirus induced tenosynovitis (viral arthritis). Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAM

The development of a durable, strong protection to this disease depends upon the use of an effective vaccination program as well as many circumstances such as administration techniques, environment and flock health at the time of vaccination. Also, the immune response to one vaccination under field conditions is seldom complete for all animals within a given flock. Even when vaccination is successful, the protection stimulated in individual animals against different diseases may not be life long. Therefore, a program of periodic revaccination may be necessary.

PREPARATION OF VACCINE

FOR DRINKING WATER OR COARSE SPRAY USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS ONE WEEK OF AGE OR OLDER

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administration and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

COARSE SPRAY ADMINISTRATION

FOR CHICKENS ONE DAY OF AGE

Calculate the water volume needed. For example, a machine which dispenses 21 ml to a box of 100 chickens - total volume for 1,000 doses is 210 ml and/or 2,000 doses is 420 ml, 5,000 doses is 1,050 ml of non-chlorinated water. For coarse spray in chicken houses, follow manufacturer's direction for the particular spray machine. Add rehydrated vaccine and mix thoroughly.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS
2. All chickens should be vaccinated at the same time.
3. Do not administer this product by injection. Studies have demonstrated that injection will produce significant mortality in day of age chickens.
4. Do not administer this product to breeders 18 weeks of age or older. Studies have demonstrated that the vaccine virus will be shed in the eggs.
5. Use entire contents when first opened.
6. Do not vaccinate within 21 days of slaughter.
7. Store at 2° to 8° C (35° to 46° F). Do not freeze.
8. Inactivate unused contents before disposal.
9. Do not mix with other products, except as specified on this label.
10. In case of human exposure, contact a physician.
11. This vaccine contains gentamicin as a preservative.
12. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine type, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and location of the chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1951.02
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

TENO-VAXIN™

Tenosynovitis (Viral Arthritis) Vaccine
(Live Virus)

For vaccination of healthy chickens 10 to 17 weeks of age for the prevention of reovirus-induced tenosynovitis (viral arthritis) in broiler breeders.

ADVANTAGES*:

- Stimulates strong immune response against reovirus infection
- Ensures maximum response to revaccination with inactivated reovirus vaccines
- Ability to spread bird-to-bird ensures uniform flock protection

Teno-Vaxin™ vaccine is a live virus vaccine of chicken embryo origin prepared from the S-1133 strain of reovirus. It is for vaccination of replacement chickens at 10 to 17 weeks of age to stimulate strong immunity and ensure maximum response to inactivated reovirus vaccines.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

TENO-VAXIN™

Tenosynovitis (Viral Arthritis) Vaccine
(Live Virus)

DESCRIPTION

This vaccine contains a modified live strain S-1133 of tenosynovitis virus grown in chicken embryos.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 10 to 17 weeks of age against infectious tenosynovitis. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR DRINKING WATER USE
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR CHICKENS BETWEEN 10 AND 17 WEEKS OF AGE

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use entire contents when first opened.
4. Do not vaccinate within 21 days before slaughter.
5. Store at 2° to 8°C (35° to 46°F). Do not freeze.
6. Inactivate unused contents before disposal.
7. Do not mix with other products, except as specified on this label.
8. In case of human exposure, contact a physician.
9. Contains gentamicin as a preservative.
10. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1951.10
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

BREEDERVAC REO-PLUS®

Bursal Disease-Reovirus Vaccine
(Standard and Variant, Killed Virus)

For the vaccination of healthy chickens 3 weeks of age or older against infectious bursal disease (IBD) (caused by Standard, Delaware A and E and GLS virus strains) (passive immunity) and diseases caused by avian reoviruses.

ADVANTAGES*:

- Contains a broad range of inactivated standard and bursal-derived variant IBD virus and reovirus strains:
  - Induces high, uniform antibodies against IBD and reovirus throughout the entire production cycle
  - Induces enhanced protection against Delaware variant IBD virus with bursal-derived antigen
  - Provides excellent protection against reovirus associated disease (including tenosynovitis and malabsorption)

Breedervac Reo-Plus® is an inactivated oil adjuvant emulsion vaccine for use in breeder pullets for the control of IBD virus and reovirus infections. It provides broad-spectrum protection for IBD and reovirus. It is approved for subcutaneous and intramuscular injection.

1 x 1,000 doses

*Data on file, Merck Animal Health

MERCK
Animal Health

BREEDERVAC REO-PLUS®

Bursal Disease-Reovirus Vaccine
(Standard and Variant, Killed Virus)

This vaccine is prepared using specific pathogen free (SPF) or approved substrates and contains Standard, GLS, and Delaware (A and E) strains of infectious bursal disease virus, and two strains of avian reovirus (1733 and 2408), inactivated and suspended in the aqueous phase of an oil adjuvant emulsion.

INDICATIONS

This product has been shown to be effective for the vaccination of healthy chickens 3 weeks of age or older against tenosynovitis caused by Avian Reovirus, and to provide passive immunity against Infectious Bursal Disease (Standard; Delaware and GLS Variants) and malabsorption caused by Avian Reovirus to progeny. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

ADMINISTRATION

Allow the vaccine to reach ambient temperature, 16° to 27°C (60° to 80°F), shake well before use and periodically during use. Inject 0.5 ml intramuscularly or subcutaneously in chickens using an 18-gauge x 1/2" or 1/4" needle.

The use of any inactivated vaccine may cause false positive results on Mycoplasma plate tests. Avoid Mycoplasma testing prior to ten weeks post-vaccination.

VACCINATION PROGRAM

Although this vaccine can be used for primary vaccination at three weeks of age or older, available evidence suggests that the best protection is obtained when it is used for revaccination of chickens previously immunized (primed) with the same type of live virus vaccines.

Example: Breeder chickens.

Primary vaccination with modified live mild avian reovirus vaccine prior to 12 weeks of age.

Primary vaccination with live bursal disease vaccine prior to 12 weeks of age.

Primary vaccination with live Newcastle and bronchitis vaccines on at least two occasions prior to 12 weeks of age.

These primary vaccinations would then be followed by vaccination with BREEDERVAC REO-PLUS at 16-22 weeks of age. A minimum of four weeks should elapse between the last live virus priming and injection with BREEDERVAC REO-PLUS. Local conditions must be taken into consideration and, where necessary, veterinary advice should be sought.

IMMUNITY

It is evident that for optimal protection, preceding vaccination with live vaccines (priming) should have taken place. Generally, in flocks vaccinated with BREEDERVAC REO-PLUS, a protective level of immunity will be achieved with only small variations between individual chickens.

CAUTIONS:

1. TO AVOID HUMAN INJECTION, EXTREME CAUTION SHOULD BE USED WHEN INJECTING ANY OIL EMULSION VACCINE. ACCIDENTAL HUMAN INJECTION MAY CAUSE SERIOUS LOCAL REACTIONS. CONTACT A PHYSICIAN IMMEDIATELY IF ACCIDENTAL HUMAN INJECTION OCCURS.
2. Do not administer this vaccine during the critical egg laying period from onset until after peak production. Administration of this product during the lay period may result in a drop in egg production.
3. Injection of inactivated vaccine into breast muscle may create processing plant problems under certain conditions.
4. Ensure that vaccination equipment is clean and sterile before use.
5. Do not use vaccination equipment with rubber parts, as the oil emulsion may attack certain types of rubber.
6. Use entire contents when first opened.
7. Do not vaccinate chickens within 42 days before slaughter.
8. Store at 2° to 8°C (35° to 46°F) in the dark.
9. Do not mix with other products.
10. In case of human exposure, contact a physician.
11. Contains gentamicin, neomycin and thimerosal as preservatives.
12. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators *performing the vaccination and any observed reactions.*

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 12D5.30
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

BREEDERVAC-IV-PLUS®

Bursal Disease-Newcastle Disease, Bronchitis and Reovirus Vaccine
(Standard and Variant, Massachusetts Type, Killed Virus)

For the vaccination of healthy chickens 3 weeks of age or older against infectious bursal disease (IBD) virus (caused by Standard, Delaware A and E and GLS virus strains) (passive immunity) and diseases caused by avian reoviruses, Newcastle disease (ND) virus, or Massachusetts type infectious bronchitis (IB) virus.

ADVANTAGES*:

- Contains a broad range of inactivated standard and bursal-derived variant IBD and reovirus strains:
  - Induces high, uniform antibodies against IBD, ND, IB and reoviruses throughout the entire production cycle
  - Requires a small 1/2 mL dose
  - Contains exclusive immunostimulant, safe, stable oil adjuvant

Breedervac-IV-Plus® is an inactivated oil adjuvant emulsion vaccine for use in breeder pullets against IBD, ND, IB and reovirus-related disease. It provides broad-spectrum protection for IBD and reovirus protection available, and solid protection against ND and Massachusetts type IB. It is approved for subcutaneous and intramuscular injection.

1 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

BREEDERVAC-IV-PLUS®

Bursal Disease-Newcastle Disease, Bronchitis and Reovirus Vaccine
(Standard and Variant, Massachusetts Type, Killed Virus)

This vaccine is prepared using specific pathogen free (SPF) or approved substrates and contains Newcastle disease virus, infectious bronchitis disease virus (Massachusetts type), Standard, GLS, and Delaware (A and E) strains of infectious bursal disease virus, and two strains of avian reovirus (1733 and 2408), inactivated and suspended in the aqueous phase of an oil adjuvant emulsion.

INDICATIONS

This product has been shown to be effective for the vaccination of healthy chickens 3 weeks of age or older against Newcastle Disease, Infectious Bronchitis Virus (Massachusetts Type), tenosynovitis caused by Avian Reovirus, and to provide passive immunity against Infectious Bursal Disease (Standard; Delaware and GLS Variants) and malabsorption caused by Avian Reovirus to progeny. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

ADMINISTRATION

Allow the vaccine to reach ambient temperature, 16° to 27°C (60° to 80°F), shake well before use and periodically during use. Inject 0.5 ml intramuscularly or subcutaneously in chickens using an 18-gauge x 1/2" or 1/4" needle.

The use of any inactivated vaccine may cause false positive results on Mycoplasma plate tests. Avoid Mycoplasma testing prior to ten weeks post-vaccination.

VACCINATION PROGRAM

Although this vaccine can be used for primary vaccination at three weeks of age or older, available evidence suggests that the best protection is obtained when it is used for revaccination of chickens previously immunized (primed) with the same type of live virus vaccines.

Example: Breeder chickens.

Primary vaccination with modified live mild avian reovirus vaccine prior to 12 weeks of age.

Primary vaccination with live bursal disease vaccine prior to 12 weeks of age.

Primary vaccination with live Newcastle and bronchitis vaccines on at least two occasions prior to 12 weeks of age.

These primary vaccinations would then be followed by vaccination with BREEDERVAC-IV-PLUS at 16-22 weeks of age. A minimum of four weeks should elapse between the last live virus priming and injection with BREEDERVAC-IV-PLUS. Local conditions must be taken into consideration and, where necessary, veterinary advice should be sought.

IMMUNITY

It is evident that for optimal protection, preceding vaccination with live vaccines (priming) should have taken place. Generally, in flocks vaccinated with BREEDERVAC-IV-PLUS, a protective level of immunity will be achieved with only small variations between individual chickens. Revaccination during molt is recommended.

CAUTIONS:

1. TO AVOID HUMAN INJECTION, EXTREME CAUTION SHOULD BE USED WHEN INJECTING ANY OIL EMULSION VACCINE. ACCIDENTAL HUMAN INJECTION MAY CAUSE SERIOUS LOCAL REACTIONS. CONTACT A PHYSICIAN IMMEDIATELY IF ACCIDENTAL HUMAN INJECTION OCCURS.
2. Do not administer this vaccine during the critical egg laying period from onset until after peak production. Administration of this product during the lay period may result in a drop in egg production.
3. Injection of inactivated vaccine into breast muscle may create processing plant problems under certain conditions.
4. Ensure that vaccination equipment is clean and sterile before use.
5. Do not use vaccination equipment with rubber parts, as the oil emulsion may attack certain types of rubber.
6. Use entire contents when first opened.
7. Do not vaccinate chickens within 42 days before slaughter.
8. Store at 2° to 8°C (35° to 46°F) in the dark.
9. Do not mix with other products.
10. In case of human exposure, contact a physician.
11. Contains gentamicin, neomycin and thimerosal as preservatives.
12. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 12M5.01
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

4.0 SPECIALTY & TURKEY VACCINES

PRODUCT BULLETIN

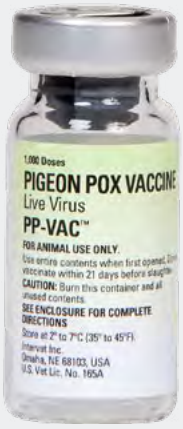
PP-VAC™

Pigeon Pox Vaccine
(Live Virus)

For vaccination of healthy chickens between 6 and 18 weeks of age against fowl pox.

ADVANTAGES:*

- Mild pox vaccine for use in young birds
- Research has demonstrated that pigeon pox induces greater protection against variant pox viruses
- Has the ability to induce good takes and strong immunity



PP-VAC™ is a live virus vaccine of chicken embryo origin containing a special pigeon pox virus selected for its mild characteristics, as well as its ability to stimulate protection against fowl pox in chickens. This product is administered to chickens between 6 and 18 weeks of age via wing-web application.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK
Animal Health

PP-VAC™

Pigeon Pox Vaccine
(Live Virus)

DESCRIPTION

This live virus vaccine is prepared from a proven strain of pigeon pox virus which was selected for its mildness and its protective characteristics against fowl pox in chickens. The virus has been propagated in SPF (Specific Pathogen Free) substrates. The immunizing capability of this vaccine has also been proven by the Master Seed Immunogenicity Test.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 6 to 18 weeks of age against fowl pox. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive chickens held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

REHYDRATION OF THE VACCINE

DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vaccine vial.
2. Remove the seal and stopper from the vial of 10 ml diluent.
3. Pour one-half of diluent from diluent vial into vial of vaccine. Insert the rubber stopper and shake until resuspended.
4. Pour resuspended vaccine into diluent vial. Add rubber stopper and shake well. Vaccine is now ready for use.

WING-WEB ADMINISTRATION

FOR CHICKENS BETWEEN 6 AND 18 WEEKS OF AGE

1. Vaccine is applied to the web of the wing. Use the enclosed two-pronged applicator.
2. A dose of 0.01 ml should be administered to each bird by dipping the applicator in the vaccine mixture, allowing the applicator grooves to fill with liquid, and stabbing the webbed portion of the wing from beneath. Avoid feathered areas of the web.
3. At about 7 to 10 days after vaccination, a few birds should be examined for takes. A good take reaction, indicating that a satisfactory vaccination job was done, shows swelling in the skin at the point of vaccination with scab formation. The scabs will fall off about 2 to 3 weeks following vaccination. Good immunity is established 2 to 3 weeks after vaccination.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use entire contents when first opened.
4. Do not vaccinate within 21 days before slaughter or 35 days prior to onset and during egg production.
5. Store at 2° to 8°C (35° to 46°F). Do not freeze.
6. Inactivate unused contents before disposal.
7. Do not mix with other products, except as specified on this label.
8. In case of human exposure, contact a physician.
9. Contains gentamicin as a preservative.
10. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1881.12
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

TREMVAC®-FP

Avian Encephalomyelitis - Fowl Pox Vaccine (Live Virus)

For the immunization of chickens at 8 to 17 weeks of age against avian encephalomyelitis (AE) and fowl pox.

ADVANTAGES:*

- Protection against infection with AE and fowl pox viruses
- Both the AE virus and fowl pox virus are back passed in SPF chickens to ensure maximum potency
- The Calnek strain of AE provides dependable immune response with consistent antibody titer
- Demonstrable efficacy with reliable development of "takes" at 7 days post-vaccination
- Combined product reduces vaccination costs

Tremvac®-FP is a lyophilized live vaccine for use in breeder pullets and egg layers to protect against clinical disease due to AE and fowl pox. It is approved for wing-web inoculation.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

TREMVAC®-FP

Avian Encephalomyelitis - Fowl Pox Vaccine
(Live Virus)

DESCRIPTION

The avian encephalomyelitis portion of this vaccine is prepared from the tested and proven Calnek strain of avian encephalomyelitis virus which was back passaged through SPF (Specific Pathogen Free) chickens to assure its full potential. The fowl pox portion of this vaccine is prepared from a proven strain of fowl pox virus which was back passed through Specific Pathogen Free (SPF) chickens to assure its full potential. The immunizing capability of this vaccine has been proven by the Master Seed Immunogenicity Test.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 8 – 17 weeks of age against avian encephalomyelitis and fowl pox disease. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

PREPARATION OF VACCINE

DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION. USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vaccine vial.
2. Remove the seal and stopper from the vial of 10 ml diluent.
3. Pour one-half of diluent from diluent vial into vial of vaccine. Insert the rubber stopper and shake until resuspended.
4. Pour resuspended vaccine into diluent vial. Add rubber stopper and shake well. Vaccine is now ready for use.

WING-WEB ADMINISTRATION

FOR CHICKENS FROM 8-17 WEEKS OF AGE

1. Vaccine is applied to the web of the wing. Use the enclosed twopronged applicator.
2. A dose of 0.01 ml should be administered to each bird by dipping the applicator in the vaccine mixture, allowing the applicator grooves to fill with liquid, and stabbing the webbed portion of the wing from beneath. Avoid feathered areas of the web.
3. At about 7 to 10 days after vaccination, a few birds should be examined for takes. A good take reaction, indicating that a satisfactory vaccination job was done, shows swelling in the skin at the point of vaccination with scab formation. The scabs will fall off about 2 to 3 weeks following vaccination. Good immunity is established 2 to 3 weeks after vaccination.

CAUTION

1. VACCINATE ONLY HEALTHY CHICKENS.
2. All chickens should be vaccinated at the same time.
3. Use entire contents when first opened.
4. Do not vaccinate within 21 days before slaughter or 35 days prior to onset and during egg production.
5. Store at 2° to 8°C (35° to 46°F). Do not freeze.
6. Inactivate unused contents before disposal.
7. Do not mix with other products, except as specified on this label.
8. In case of human exposure, contact a physician.
9. Contains gentamicin as a preservative.
10. FOR ANIMAL USE ONLY

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 10M1.14
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

M-NINEVAX®-C

Pasteurella multocida Vaccine
(Avian Isolate, Avirulent Live Culture)

MERCK Animal Health

For vaccination of healthy breeder and layer chickens and turkey breeders for the prevention of fowl cholera due to *Pasteurella multocida*.

ADVANTAGES*:

- Strong protection against *P. multocida* serotype 1 (chickens) and serotype 3 (turkeys)
- Mild reactions for minimal stress
- **SAFE**. Avirulent live culture will not revert to virulence; will not cause mortality
- Specially formulated diluent provides excellent reconstitution stability

M-Ninevax®-C vaccine is a live bacterial vaccine containing the mild avirulent M-9 strain of *P. multocida*, Heddleston type 3-4 cross, in a freeze-dried preparation sealed under vacuum.

This vaccine strain has been shown to offer protection against fowl cholera in chickens and turkeys. The seed culture used to make this vaccine has been laboratory tested for protection in chickens against challenge with *P. multocida* serotype 1 and in turkeys against challenge with *P. multocida* serotype 3.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

M-NINEVAX®-C

Pasteurella multocida Vaccine
(Avian Isolate, Avirulent Live Culture)

DESCRIPTION

This vaccine is a live bacterial vaccine containing the mild avirulent M-9 strain of *Pasteurella multocida*, Heddleston Type 3-4 cross, in a freeze-dried preparation sealed under vacuum. The seed culture used to make this vaccine has been laboratory tested for protection in chickens against challenge with the X-73 (Type-1) strain of *P. multocida* and in turkeys against challenge with the P1059 (Type 3) strain of *P. multocida*.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 10-12 weeks of age against pasteurellosis (fowl cholera) due to *Pasteurella multocida* Type 1 infection and healthy turkeys 6 weeks of age or older against pasteurellosis (fowl cholera) due to *Pasteurella multocida* Type 3 infection. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

WHEN TO VACCINATE

BY WING-WEB:

Chickens: Use by wing-web stab to vaccinate chickens 10-12 weeks of age and again at 18-20 weeks. There should be at least 6 weeks and not more than 10 weeks between vaccinations. Initial vaccination in chickens over 12 weeks of age may be undesirable because larger granulomas may develop at the site of inoculation and this may result in downgrading of carcasses at slaughter.

Turkeys: Use by wing-web stab to vaccinate turkey breeders 15 weeks of age or older. Birds should initially be wing-web vaccinated at 15-18 weeks of age and again 8 weeks later. Turkey breeders must be vaccinated at least twice with live fowl cholera vaccine via oral route prior to wing-web vaccination. Use of this vaccine in turkeys which have not been orally prevaccinated may cause severe postvaccination reactions, including lameness and death. The interval between the last oral vaccination and the first wing-web vaccination should not exceed 6 weeks. Additional wing-web vaccination every 6-8 weeks throughout the life of the bird may be required in areas of endemic exposure to fowl cholera.

BY DRINKING WATER:

Turkeys: Best results are obtained when vaccine is administered initially to turkeys 6 to 8 weeks of age, followed by a booster dose three weeks later, and repeated every 4 to 6 weeks thereafter as necessary according to exposure conditions. Initial vaccination with this vaccine should not be conducted in turkeys older than 12 weeks of age. Do not use this vaccine within 2 weeks before or 2 weeks after vaccinating turkeys with live virus Newcastle vaccine.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive birds held in a proper environment under good management. In addition, the response may be modified by the age of the chickens and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR WING-WEB ADMINISTRATION
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION.
USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vaccine vial.
2. Remove the seal and stopper from the vial containing the diluent
3. Hold the diluent bottle firmly in an upright position and insert the shorter end of the transfer tube. Still holding the diluent bottle in an upright position, insert the neck of the vaccine vial over the longer end of the transfer tube. The vaccine vial should snap into position, connecting the two vials securely.
4. Invert the two containers so that the vaccine vial is on the bottom and allow the diluent to flow into the vaccine vial. If the diluent does not flow freely, squeeze the diluent bottle gently and the diluent will flow into the vaccine vial. The vaccine vial should be completely filled with diluent to prevent excess foaming.
5. Hold the joined containers by the ends; shake vigorously until the vaccine plug is completely dissolved.
6. Return the joined containers to their original position (diluent bottle on the bottom). Allow the vaccine to flow into the diluent bottle. If the vaccine does not flow into the diluent bottle, tap or squeeze the diluent bottle gently and release to draw the vaccine into the diluent bottle. Be sure all the product is removed from the vaccine vial.
7. Remove the vaccine vial and transfer tube from the neck of the diluent bottle.
8. The vaccine is now ready to use.
9. Wash hands thoroughly after mixing the vaccine.

WING-WEB ADMINISTRATION

FOR CHICKENS 10-12 WEEKS OF AGE AND TURKEYS 15 WEEKS OF AGE OR OLDER

1. Vaccination is accomplished by dipping the needle applicator into the mixed vaccine and piercing the webbed portion of the underside of the wing. Avoid piercing through feathers which may wipe off the vaccine and avoid hitting the wing muscle or bone to minimize reaction. The applicator is designed to pick up the proper amount of vaccine on the needles, which is deposited in the tissues when the wing is pierced.
2. Redip the applicator in the vaccine before each application. Excess vaccine adhering to the applicator should be removed by touching the applicator to the inside of the vial.
3. At 5 to 10 days following vaccination, a swelling of the skin (subcutaneous granuloma) will develop on the wing-web at the point of inoculation. The absence of this local reaction may mean that improper vaccination methods were used. Examination for these "takes" at 7 days post-vaccination may be used to assure that proper vaccination has been conducted.

PREPARATION OF VACCINE

FOR DRINKING WATER
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION.
USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vial containing the lyophilized vaccine.
2. Carefully pour clean, cool, non-chlorinated water into the vaccine vial until the vial is approximately two-thirds full.
3. Insert the rubber stopper and shake vigorously until all material is dissolved.
4. The vaccine is now ready to be applied as per label in accordance with the directions below. For best results, be sure to follow directions carefully!

DRINKING WATER ADMINISTRATION

FOR TURKEYS 6 TO 8 WEEKS OF AGE

1. Do not use any disinfectants in the drinking water for 48 hours before vaccinating and 24 hours after vaccination.
2. Withhold water from the chickens until they are thirsty.
3. Calculate the water volume needed so the vaccine will be consumed in approximately 2 hours.
4. Optional: as an aid in preserving the virus, add a vaccine stabilizer to the stock solution or to the tank containing clean, cool, non-chlorinated water. Agitate thoroughly. Follow the manufacturer's rate of administrations and wait time.
5. Add rehydrated vaccine from vial to the water and mix thoroughly.
6. Turn on tank valve or automatic dosing system.
7. Provide as sole source of drinking water until all vaccine-water solution has been consumed.

CAUTION

1. VACCINATE ONLY HEALTHY BIRDS.
2. All birds should be vaccinated at the same time.
3. Do not medicate birds with antibacterial drugs 3 days prior to or 5 days after vaccination.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store vaccine at 2° to 8° C (35° to 46° F).
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual birds and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of birds; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1871.03
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

PM-ONEVAX®-C

Pasteurella multocida Vaccine
(Avirulent Live Culture, Avian Isolate)

MERCK Animal Health

For vaccination of healthy broiler breeder and layer chickens and turkey breeders for the prevention of fowl cholera due to *Pasteurella multocida*.

ADVANTAGES*:

- A temperature sensitive mutant of the CU strain that produces stronger takes than the M-9 strain, but less than the CU strain
- Offers protection against naturally occurring field strains of *P. multocida*
- Easy wing-web administration in broiler breeders, layers and turkey breeders

PM-Onevax®-C vaccine. The seed culture used to make this vaccine has been laboratory tested for protection of chickens against challenge with the X-73 type 1 strain of *P. multocida* and in turkeys against challenge with the P1059 type 3 strain of *P. multocida*.

10 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

PM-ONEVAX®-C

Pasteurella multocida Vaccine
(Avirulent Live Culture, Avian Isolate)

DESCRIPTION

This vaccine is a live bacterial vaccine containing the mild avirulent PM-1 strain of *Pasteurella multocida* in a freeze-dried preparation sealed under vacuum. The seed culture used to make this vaccine has been laboratory tested for protection in chickens against challenge with the X-73 (Type 1) strain of *P. multocida* and in turkeys against challenge with the P1059 (Type 3) strain of *P. multocida*.

INDICATIONS FOR USE

This product has been shown to be effective for the vaccination of healthy chickens 10 to 12 weeks of age against pasteurellosis (fowl cholera) due to *Pasteurella multocida* Type 1 and turkeys 15 weeks of age or older against pasteurellosis (fowl cholera) due to *Pasteurella multocida* Type 3. Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

WHEN TO VACCINATE

Chickens: Use by wing-web stab to vaccinate chickens 10-12 weeks of age and again at 18-20 weeks of age. There should be at least 6 weeks and not more than 10 weeks between vaccinations. Initial vaccination in chickens over 12 weeks of age may be undesirable because larger granulomas may develop at the site of inoculation and this may result in downgrading of carcasses at slaughter.

Turkeys: Use by wing-web stab to vaccinate turkey breeders 15 weeks of age or older. Birds should initially be wing-web vaccinated at 15-18 weeks of age and again 8 weeks later. Turkey breeders must be vaccinated at least twice with live fowl cholera vaccine via oral route prior to wing-web vaccination. Use of this vaccine in turkeys which have not been orally prevaccinated may cause severe postvaccination reactions, including lameness and death. The interval between the last oral vaccination and the first wing-web vaccination should not exceed 6 weeks. Additional wing-web vaccination every 6-8 weeks throughout the life of the bird may be required in areas of endemic exposure to fowl cholera.

VACCINATION PROGRAMS

Many factors must be considered in determining the proper vaccination program for a particular farm or poultry operation. To be fully effective, the vaccine must be administered to healthy receptive birds held in a proper environment under good management. In addition, the response may be modified by the age of the bird and their immune status. Seldom does one vaccination under field conditions produce complete protection for all individuals, in a given flock. The amount of protection required will vary with the type of operation and the degree of exposure that a flock is likely to encounter. For these reasons a program of periodic revaccination may be required.

PREPARATION OF VACCINE

FOR WING-WEB ADMINISTRATION
DO NOT OPEN AND MIX THE VACCINE UNTIL READY TO BEGIN VACCINATION.
USE VACCINE IMMEDIATELY AFTER MIXING.

1. Remove the tear-off seal and stopper from the vaccine vial.
2. Remove the seal and stopper from the vial containing the diluent
3. Hold the diluent bottle firmly in an upright position and insert the shorter end of the transfer tube. Still holding the diluent bottle in an upright position, insert the neck of the vaccine vial over the longer end of the transfer tube. The vaccine vial should snap into position, connecting the two vials securely.
4. Invert the two containers so that the vaccine vial is on the bottom and allow the diluent to flow into the vaccine vial. If the diluent does not flow freely, squeeze the diluent bottle gently and the diluent will flow into the vaccine vial. The vaccine vial should be completely filled with diluent to prevent excess foaming.
5. Hold the joined containers by the ends; shake vigorously until the vaccine plug is completely dissolved.
6. Return the joined containers to their original position (diluent bottle on the bottom). Allow the vaccine to flow into the diluent bottle. If the vaccine does not flow into the diluent bottle, tap or squeeze the diluent bottle gently and release to draw the vaccine into the diluent bottle. Be sure all the product is removed from the vaccine vial.
7. Remove the vaccine vial and transfer tube from the neck of the diluent bottle.
8. The vaccine is now ready to use.
9. Wash hands thoroughly after mixing the vaccine.

WING-WEB ADMINISTRATION

FOR CHICKENS 10-12 WEEKS OF AGE AND TURKEYS 15 WEEKS OF AGE OR OLDER

1. Vaccination is accomplished by dipping the needle applicator into the mixed vaccine and piercing the webbed portion of the underside of the wing. Avoid piercing through feathers which may wipe off the vaccine and avoid hitting the wing muscle or bone to minimize reaction. The applicator is designed to pick up the proper amount of vaccine on the needles, which is deposited in the tissues when the wing is pierced.
2. Redip the applicator in the vaccine before each application. Excess vaccine adhering to the applicator should be removed by touching the applicator to the inside of the vial.
3. At 5 to 10 days following vaccination, a swelling of the skin (subcutaneous granuloma) will develop on the wing-web at the point of inoculation. The absence of this local reaction may mean that improper vaccination methods were used. Examination for these “takes” at 7 days post-vaccination may be used to assure that proper vaccination has been conducted.

CAUTION

1. VACCINATE ONLY HEALTHY BIRDS.
2. All birds should be vaccinated at the same time.
3. Do not medicate birds with antibacterial drugs 3 days prior to or 5 days after vaccination.
4. Use entire contents when first opened.
5. Do not vaccinate within 21 days before slaughter.
6. Store at 2° to 8° C (35° to 46° F). Do not freeze.
7. Inactivate unused contents before disposal.
8. Do not mix with other products, except as specified on this label.
9. In case of human exposure, contact a physician.
10. FOR ANIMAL USE ONLY.

NOTICE

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local regulatory requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of the individual birds and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS

Keep a record of vaccine, quantity, serial number, expiration date, and place of purchase; the date and time of vaccination; the number, age, breed, and locations of birds; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 1871.04
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

PRODUCT BULLETIN

CORVAC-3

Coryza Vaccine
Avibacterium paragallinarum (Serotypes A, B, and C)

This product has been shown to be effective for the vaccination of healthy chickens 5 weeks of age or older against disease caused by *Avibacterium paragallinarum* (CORYZA, serotypes A, B or C).

ADVANTAGES*:

- Broad-spectrum protection against infectious coryza
- Optimum antigen content
- Dependable development of immunity

CORVAC-3® is an inactivated oil adjuvant emulsion bacterin. It is approved for use in chickens five weeks of age or older via subcutaneous injection.

1 x 1,000 doses

*Data on file, Merck Animal Health

MERCK Animal Health

CORVAC-3

Coryza Vaccine
Avibacterium paragallinarum (Serotypes A,B, and C)

Description

This vaccine is prepared from three inactivated strains of *Avibacterium paragallinarum* belonging to serotypes A, B, and C (Page classification scheme), and suspended in the aqueous phase of an oil adjuvant emulsion.

INDICATIONS

This product has been shown to be effective for the vaccination of healthy chickens 5 weeks of age or older against disease caused by *Avibacterium paragallinarum* (CORYZA). Duration of immunity has not been established. For more information regarding efficacy and safety data, see productdata.aphis.usda.gov.

ADMINISTRATION

Allow the vaccine to reach ambient temperature, 16° to 27°C (60° to 80°F), shake well before use and periodically during use. Inject 0.5 ml subcutaneously in chickens in the back of the neck midway between the head and body in a direction away from the head using an 18-gauge needle. Do not inject into muscle tissue or neck vertebrae. Vaccinate healthy chickens at least 5 weeks of age. A second vaccination is recommended a minimum of 4 weeks following initial vaccination and 3-4 weeks prior to the onset of lay. The use of any inactivated vaccine may cause false positive results on Mycoplasma plate tests. Avoid Mycoplasma testing prior to ten weeks post-vaccination.

IMMUNITY*

Data suggests chickens administered two doses with the second dose given a few weeks prior to the onset of lay will achieve a protective level of immunity during the laying period with only small variations between individual chickens.

VACCINATION REACTION

Clinical reactions may occur as a result of transient swelling in the neck region following vaccination. These reactions may be aggravated by improper vaccination technique. If shock is observed, this must usually be ascribed to stress by handling.

CAUTIONS:

1. TO AVOID HUMAN INJECTION, EXTREME CAUTION SHOULD BE USED WHEN INJECTING ANY OIL EMULSION VACCINE. ACCIDENTAL HUMAN INJECTION MAY CAUSE SERIOUS LOCAL REACTIONS. CONTACT A PHYSICIAN IMMEDIATELY IF ACCIDENTAL HUMAN INJECTION OCCURS.
2. Do not administer this vaccine during the critical egg laying period from onset until after peak production. Administration of this product during the lay period may result in a drop in egg production.
3. Injection of inactivated vaccine into breast muscle may create processing plant problems under certain conditions.
4. Ensure that vaccination equipment is clean and sterile before use.
5. Do not use vaccination equipment with rubber parts, as the oil emulsion may attack certain types of rubber.
6. Use entire contents when first opened.
7. Do not vaccinate chickens within 42 days before slaughter.
8. Store at 2° to 8°C (35° to 46°F) in the dark.
9. Do not mix with other products.
10. In case of human exposure, contact a physician.
11. Contains thimerosal as a preservative.
12. FOR ANIMAL USE ONLY

NOTICE:

This vaccine has undergone rigid potency, safety and purity tests, and meets Intervet Inc., U.S. and local requirements. It is designed to stimulate effective immunity when used as directed, but the user must be advised that the response to the product depends upon many factors, including, but not limited to, conditions of storage and handling by the user, administration of the vaccine, health and responsiveness of individual chickens and the degree of field exposure. Therefore, directions should be followed carefully.

RECORDS:

Keep a record of vaccine, quantity, serial number, expiration date and place of purchase; the date and time of vaccination; the number, age, breed and locations of chickens; names of operators performing the vaccination and any observed reactions.

Intervet Inc.
Omaha, NE USA
VLN 165A/PCN 2658.00
1 800 211-3573 (USA) | 1 866 683-7838 (Canada)

Contact our sales or technical services representatives to help design a custom vaccination program.

*Data on file, Merck Animal Health

MERCK Animal Health

5.0 SPECIALTY PHARMACEUTICALS AND OTHER PRODUCTS

PRODUCT BULLETIN

EXZOLT™

(fluralaner oral solution)

10mg of fluralaner/mL

Exzolt is indicated for the treatment and control of northern fowl mites (*Ornithonyssus sylviarum*) in laying hens and replacement chickens.

ADVANTAGES*:

- Rapid and massive decrease in mite populations in a chicken house, with demonstrated 99%+ efficacy*
- Full treatment by convenient application via drinking water 2 times, 7 days apart
- Ready-to-use solution for simple dilution, with no sedimentation, clogging or spoilage
- Zero-day egg withdrawal period, ideal for commercial layers
- 11-day meat withdrawal after last administration of Exzolt
- More effective, safe, targeted and convenient than mite sprays
- Fast onset of acaricidal activity, with 99%+ reduction in northern fowl mite counts after just 2 days. Full treatment requires 2 administrations, 7days apart, which spans two mite life cycles, disrupting mite population dynamics

Exzolt™ is a fluranlaner oral solution for control of Northern Fowl mites available in 1L and 4L presentations.

IMPORTANT SAFETY INFORMATION: EXZOLT™ (fluralaner oral solution)
Not for use in humans. Keep this and all drugs out of the reach of children. Accidental exposure may cause skin and eye irritation. Accidental ingestion may cause gastrointestinal disturbances and hypersensitivity reactions in humans. Chickens must not be slaughtered for human consumption for 11 days after the last treatment. No egg discard is required when used according to the labeling. For complete safety information and product dosing instructions, refer to the product label.

*Data on file, Merck Animal Health

MERCK
Animal Health

EXZOLT™

(fluralaner oral solution)

10mg of fluralaner/mL

Exzolt™ (fluralaner oral solution)
10 mg of fluralaner/mL

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

Description: Exzolt (fluralaner oral solution) is a concentrate for oral administration via drinking water containing fluralaner. Each mL of Exzolt contains 10 mg of fluralaner.

The chemical name of fluralaner is (±)-4-[5-(3,5-dichlorophenyl)-5-(trifluoromethyl)-4,5 dihydroisoxazol-3-yl]-2-methyl-N-[2-oxo-2-(2,2,2-trifluoroethylamino)ethyl] benzamide.

Indications for Use: Exzolt is indicated for the treatment and control of northern fowl mites (*Ornithonyssus sylviarum*) in laying hens and replacement chickens.

Dosage and Administration: Exzolt must be administered orally to chickens via the drinking water as 2 single doses spaced 7 days apart, with each dose consumed over a period of 6 to 24 hours. Each dose is 0.5 mg fluralaner/kg (0.227 mg/lb) body weight, equivalent to 0.05 mL of Exzolt/kg body weight (0.023 mL/lb).

General Mixing Directions: Determine the time period over which to administer the medicated water on the treatment day. This period of time must be a minimum of 6 hours and maximum of 24 hours and long enough to allow all birds to receive the required dose. **If the medicated water will contact rusty surfaces, it must be consumed within 8 hours of preparation**. Estimate how much water birds will usually consume during the selected treatment period based on the previous day's water consumption. Ensure that the amount of medicated drinking water offered will be consumed completely within the selected treatment period (between 6 and 24 hours). No other source of drinking water should be available during the medication period.

Calculate the volume of Exzolt needed based on the total weight of all birds in the house to be treated. To ensure administration of the correct dose, body weight should be estimated as accurately as possible and an accurate device should be used for measuring the calculated volume of product to be administered.

The required amount of Exzolt on each treatment day is calculated from the total body weight of the entire group of chickens to be treated:

Volume of Exzolt (mL) per treatment day = Total body weight (kg) of birds to be treated x 0.05 mL/kg
Or
Volume of Exzolt (mL) per treatment day = Total body weight (lb) of birds to be treated x 0.023 mL/lb

Examples:

Total body weight of birds to be treated	Volume of Exzolt per treatment day
5000 kg (11,023 lb)	0.25 L (250 mL)
10,000 kg (22,046 lb)	0.5 L (500 mL)
15,000 kg (33,069 lb)	0.75 L (750 mL)
20,000 kg (44,092 lb)	1 L (1,000 mL)
80,000 kg (176,370 lb)	4 L
320,000 kg (705,479 lb)	16 L

To prepare the medicated water, the instructions below need to be followed in the order described:

- Check the water system to ensure it works properly and is free of leaks; also ensure that water is available to all nipple or bell drinkers.
- For each day of treatment, medicated water must be freshly prepared.
  - Mix the required volume of the product into a large medication tank or create a stock solution in a small container. The stock solution must be further diluted with drinking water and administered over time, using a proportioner or dosing pump. Always add product and water simultaneously in order to avoid foaming. It is important to rinse the measuring device used to measure the required product volume during the filling phase in order to ensure that the complete dose is emptied into the medication tank or the stock solution and that no residues remain in the measuring device.
  - Stir the stock solution or the content of the medication tank gently until the medicated water is homogeneous. Connect the medication tank or the proportioner or dosing pump to the drinking water system.
- Make sure the dosing pump is properly set to deliver the medicated water during the predetermined treatment period (hours).
- Prior to introducing the medicated water, drain the drinker lines fully by opening the flush valve and checking end-line nipples to ensure no water remains.
- Prime the drinker lines with medicated water and confirm the medicated water has reached all end-line nipples.

Once the stock solution container is empty, rinse both the container and downstream water lines with unmedicated water (rinse water). Allow birds to consume the rinse water before reintroducing non-medicated water. The full course of therapy (2 single doses 7 days apart) must be administered for full therapeutic effect. Strict biosecurity measures at house and farm level should be implemented to prevent reinfestation of treated houses. To ensure long-term control of the mite populations in a treated house, it is essential to treat any other infested poultry in houses in proximity to the treated one.

Warnings

WITHDRAWAL PERIODS: Chickens must not be slaughtered for human consumption for 11 days after the last treatment. No egg discard is required when used according to the labeling.

User Safety Warnings: Not for use in humans. Keep this and all drugs out of the reach of children.

Protective gloves should be used. Care should be taken when handling the product to avoid skin and eye exposure, exposure of mucous membranes, and accidental ingestion. Accidental exposure may cause skin and eye irritation. In case of eye contact, immediately rinse thoroughly with water. If wearing contact lenses, immediately rinse the eyes first, then remove contact lenses and continue to rinse the eyes thoroughly. Seek medical advice if symptoms occur. Wash hands and contacted skin with soap and water after use of the product. Remove contaminated clothes and launder with detergent.

Accidental ingestion may cause gastrointestinal disturbances and hypersensitivity reactions in humans.

To obtain a copy of the Safety Data Sheet (SDS) or for technical assistance, call Merck Animal Health at 1-800-211-3573.

Contact Information: Contact Merck Animal Health at 1-800-521-5767 or sp-uspoultrycustomerserviceusa@merck.com. To report suspected adverse drug experiences, contact Livestock Technical Service at 1-800-211-3573. For additional information about reporting adverse drug experiences for animal drugs, contact FDA at 1-888-FDA-VETS or https://www.fda.gov/reportanimalae.

Clinical Pharmacology
Mechanism of Action: Fluralaner is for systemic use and belongs to the class of isoxazoline-substituted benzamide derivatives. Fluralaner acts as an inhibitor of the arthropod nervous system by antagonizing ligand-gated chloride channels (gamma-aminobutyric acid [GABA]-receptor and glutamate-receptor).

Pharmacokinetics: The pharmacokinetics of fluralaner were determined in fifty-five healthy laying hens treated with two single oral administrations of Exzolt (0.5 mg/kg twice) at 7-day intervals via drinking water. Concentrations of fluralaner peaked at 36 hours after the first administration and at 12 hours after the second administration. The maximum concentration (Cmax) of fluralaner was higher after the second dose (355 ng/mL) compared to after the first dose (323 ng/mL) suggesting slight accumulation. In a subsequent study, the oral bioavailability of fluralaner was determined in chickens after intravenous and oral administration (gavage) at a dose of 0.5 mg/kg. The oral bioavailability of fluralaner is 91%.

Target Animal Safety
Two margin of safety studies (growing broiler chickens and laying hens during peak egg production) and two reproductive safety studies (layer and broiler breeder chickens) were conducted.

The margin of safety study in broiler chickens was conducted in 320 3-week-old parent stock broiler chickens (Ross 308) at 1X, 3X, or 5X the recommended dose of 0.5 mg/kg body weight for 3 times the recommended duration at 7-day intervals, and the margin of safety study in laying hens was conducted in 120 commercial laying hens (Novogen) at 1X, 3X, or 5X the label dose for 3 consecutive days each, 7 days apart. No clinically relevant effects related to the administration of Exzolt were observed.

The reproductive safety study in layer chicken breeders was conducted in 432 (48 male and 384 female) commercial Bovans strain layer breeder chickens at 3 times the recommended dose on 4 occasions, 7 days apart and the reproductive safety study in broiler chicken breeders was conducted in 432 (48 male and 384 female) commercial Cobb 500 broiler breeder chickens at 3X the recommended dose on 4 occasions, 7 days apart. No clinically relevant effects on reproductive safety parameters related to the administration of Exzolt were observed.

These studies support the safety of Exzolt in laying hens and replacement chickens when administered in drinking water as 2 single doses of 0.5 mg/kg body weight, 7 days apart.

Effectiveness
In a well-controlled dose confirmation study conducted in 128 commercial 14-week-old White Leghorn female replacement chickens (Hy-Line® strain), effectiveness against *Ornithonyssus sylviarum* was 100% on Days 8, 14, 19, and 28 after the first treatment. No treatment-related adverse events were observed.

In a well-controlled dose confirmation study conducted in 128 commercial 29-week-old Brown Leghorn laying hens (Hy-Line strain), effectiveness against *Ornithonyssus sylviarum* was 100% on Days 8 and 14 after the first treatment. No treatment-related adverse events were observed.

In a well-controlled field effectiveness study conducted in 800 commercial 23-week-old White Leghorn laying hens (Hy-Line strain), effectiveness against *Ornithonyssus sylviarum* exceeded 99.9% on Days 8, 14, 19, and 28 after the first treatment. No treatment-related adverse events were observed.

In a well-controlled field effectiveness study conducted in 800 commercial 28-week-old White Leghorn (Hy-Line strain) laying hens, effectiveness against *Ornithonyssus sylviarum* exceeded 99.9% on Days 8, 14, 19, and 28 after the first treatment. No treatment-related adverse events were observed.

In all 4 effectiveness studies Exzolt achieved 99.3% or greater reduction in *Ornithonyssus sylviarum* mite counts on Day 2 following the first dose administration.

How Supplied: Exzolt is available in 1- and 4-liter HDPE plastic containers.

Storage and Handling: Store Exzolt at or below 86°F (30°C) and use within 6 months after first opening. Use the medicated water within 24 hours of preparation. **Use within 8 hours of preparation if the medicated water comes in contact with rusty surfaces**.

Approved by FDA under NADA # 141-607

Distributed By: Intervet Inc. (d/b/a Merck Animal Health),
126 E. Lincoln Avenue, Rahway, NJ 07065

Revision Date 05/2025

230477 R10

MERCK Animal Health

PRODUCT BULLETIN

SAFE-GUARD®

(Fenbendazole)
20% Type A Medicated Article

For the removal and control of gastrointestinal worms: round worms, adults and larvae (*Ascaridia dissimilis*), cecal worms, adults and larvae (*Heterakis gallinarum*), an important vector of *Histomonas meleagridis* (Blackhead) growing turkeys.

ADVANTAGES:

- Proven safety
- The only in-feed dewormer approved for use in turkeys
- Excellent efficacy against both larval and adult roundworms[1]
- No pre-slaughter withdrawal required. May be used until day of slaughter.[2]

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

Safe-Guard® is an anthelminthic type A medicated premix containing 20% fenbendazole for use in growing turkeys.

Net Weight: 25 lb (11.34 kg)

1 Data on file. Merck Animal Health
2 Safe-Guard SAFE-GUARD® Type "A" Medicated article (Premix) [prescribing information]; 1991

MERCK Animal Health

SAFE-GUARD®

(Fenbendazole)
20% Type A Medicated Article

For Animal Use Only.

Description

An anthelminthic feed additive for the control of gastrointestinal worms in growing turkeys.
Active ingredient: Fenbendazole 200 grams per kilogram (90.7 grams per pound) Inert ingredients: roughage products or roughage products and calcium carbonate; and mineral oil or soybean oil.

Indications for Use

For the removal and control of gastrointestinal worms: round worms, adults and larvae (*Ascaridia dissimilis*), cecal worms, adults and larvae (*Heterakis gallinarum*), an important vector of *Histomonas melagridis* (Blackhead) in growing turkeys.

Important

Must be thoroughly mixed into turkey feed before use.

Directions for Mixing

Thoroughly mix 72.5 grams (0.16 lb) of Safe-Guard (fenbendazole) 20% Type A Medicated Article into each ton of complete feed to provide 16 ppm fenbendazole (use level).

It is recommended that an intermediate mix containing 1 part Safe-Guard 20% Type A Medicated Article and not less that 9 parts appropriate feed ingredients be thoroughly mixed before incorporation into the final feed.
The working premix is then blended with the complete feed mixture. Thoroughly mix both working premix and complete feed to assure complete and uniform distribution of the Safe-Guard 20% Type A Medicated Article.

Directions for Use

Fenbendazole is added to turkey feed at a concentration of 16 ppm (14.5 g/ton). The resultant complete turkey feed containing fenbendazole is then fed as the sole ration for 6 consecutive days.

Warning

KEEP THIS AND ALL DRUGS OUT OF THE REACH OF CHILDREN. NOT FOR USE IN HUMANS.
This product is not hazardous when used according to directions supplied. A safety data sheet (SDS) is available upon request. This and any other consumer information can be obtained by calling Merck Animal Health Customer Service at 1-800-211-3573.

Residue Warning

No withdrawal period is required when used according to the label.

Ask your Merck Animal Health sales or technical services representative to design a custom gastrointestinal worm control program to meet your needs.

MERCK
Animal Health

PRODUCT BULLETIN

SAFE-GUARD® AQUASOL

(Fenbendazole oral suspension)

Innovative manufacturing process enables easy, effective deworming for broilers, breeders, pullets and laying hens through oral administration via drinking water.

NEW PRODUCTION TECHNOLOGY[1]

- Approved for laying hens and replacement chickens intended to become laying hens
- Proprietary, innovative wet-milling technique produces highly stable suspension in drinking water
- Smaller particle size helps prevent sedimentation and clogged pipes, filters or nipple drinkers
- Easily administered by medicators or proportioners

APPROVED FOR MAJOR INTESTINAL PARASITES[2]

- *Ascaridia galli* (adult stage roundworms)
- *Heterakis gallinarum* (adult stage cecal worms)

EFFECTIVE[2]

- 97% efficacy against *A. galli* in 4 US field studies (100% in broilers)
- 92.1% efficacy against *H. gallinarum* (long lived birds)

CONVENIENT WATER FORMULATION

- Short, 5 day treatment
- No pre-slaughter withdrawal period when used as directed
- Shelf life of 3 years unopened, 6 months after opening — multi-use container reduces waste

SAFE[2]

- Proven safe when used as directed
- No adverse effects on egg production, hatchability or progeny of breeders
- No impact on water or feed intake compared to unmedicated controls

[1]Data on file, Merck Animal Health
[2]Freedom of Information Summary, NADA 141-449

Safe-Guard® AquaSol is available in 1 liter and 1 gallon presentations.

MERCK Animal Health

SAFE-GUARD® AQUASOL

(Fenbendazole oral suspension)

For Animal Use Only.

Description

Safe-Guard® AquaSol is a suspension concentrate containing fenbendazole, an antiparasitic. Each mL of Safe-Guard AquaSol contains 200 mg of fenbendazole.

Indications for Use

Safe-Guard AquaSol is indicated for the treatment and control of adult *Ascaridia galli* in broiler chickens and replacement chickens and for the treatment and control of adult *A. galli* and *Heterakis gallinarum* in breeding chickens and laying hens.

Dosage and Administration

Safe-Guard AquaSol must be administered orally to chickens via the drinking water at a daily dose of 1.0 mg/kg BW (0.454 mg/lb) for 5 consecutive days.

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

Residue Warning

No withdrawal period is required when used according to labeling.

Storage Information

Store at room temperature 30°C (86°F). Once opened, do not store the container above 25 °C (77°F). Do not freeze.

Use within 6 months after opening. Use the medicated water within 24 hours.

For customer service, adverse effects reporting, and/or a copy of the SDS, call 1-800-211-3573

Contact our sales or technical services representatives to help design a custom vaccination program.

MERCK Animal Health

Deworming Chickens with

SAFE-GUARD® AquaSol

(fenbendazole oral suspension)

UIN: 215621 UPC: 662858216103

See how easy deworming chickens really is with SAFE-GUARD® AquaSol, the **ONLY FDA-Approved,** chicken dewormer for home use.

- Short, 5-day treatment
- Water birds with the medicated water first thing in the am, as chickens are let out of the coop for the day, as they will immediately drink water after being shut up all night
- Remove all other sources of water until medicated water is consumed
- SAFE-GUARD® AquaSol has no withdrawal period for eggs or meat

For each day (for 5 consecutive days)

If the total flock weight is:	Extract the following volume of SAFE-GUARD® AquaSol from the vial:	Dilute into the following volume of water:	7 lb Chickens dosed
Less than 22 lbs	Not Recommended	Not Applicable	Not Applicable
22 lbs	0.05 mL	4 cups (0.9 L)	3
22-33 lbs	0.075 mL		4
34-44 lbs	0.1 mL		6
45-55 lbs	0.125 mL		7
56-66 lbs	0.15 mL	8 cups (1.9 L)	9
67-77 lbs	0.175mL		11
78-88 lbs	0.2 mL		12
89-99 lbs	0.225 mL		14
100-110 lbs	0.25 mL		15
Over 110 lbs	See package insert	See package insert	See package insert

Refer to package insert for full mixing directions.

IMPORTANT SAFETY INFORMATION
Not for use in humans. Accidental exposure may result in skin and eye irritation and may cause gastrointestinal disturbances and hypersensitivity reactions in humans. No withdrawal period is required when used according to the label. Consult your veterinarian for assistance in the diagnosis, treatment and control of parasitism.

PRODUCT BULLETIN

ARMATREX™

A Silane Quaternary Ammonium Salt

EPA registered for use in livestock and companion animal facilities as a final bacteriostatic finish to impart fungistatic (mold and mildew), or algistatic activity that provides freshness, reduces surface deterioration, or microbiologically induced corrosion.

ADVANTAGES*:

- Armatrex is a spray-on antimicrobial bacteriostatic solution for livestock production and companion animal facilities
  - » Creates an invisible barrier to inhibit the growth of odor causing bacteria, fungi, mold, mildew, and algae.
  - » No antimicrobial adaptation, resistance, or mutation
- Long-lasting protection and proven effi cacy compared to only using traditional disinfectants
  - » Up to 90 days of protection
  - » Enhances biosecurity when used in conjunction with proper cleaning and disinfectant protocols
- Convienent and ready to use formulation
  - » Mixing and measuring is not required.
  - » The electrostatic technology provides uniform coverage of treated surfaces, decreasing product waste**
- Able to use in multiple locations and surfaces without causing damage, using a variety of application methods
  - » From delivery trucks and silos, to veterinary clinics and quarantine pens, Armatrex is made to fi t any operation's biosecurity needs
  - » Protects while reducing surface deterioration, or microbiologically induced corrosion.

Code: 385990 1 gallon
Code: 375925 5 Gallon
Code: 334142 55 Gallon

*Data on file, Merck Animal Health
** Data on file, Merck Animal Health

ARMATREX™

A Silane Quaternary Ammonium Salt

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

FOR COMMERCIAL & INDUSTRIAL USE

ARMATREX™ can be used as a final bacteriostatic finish for the following sample structures, facilities, and locations:

LOCATIONS: Veterinary clinics, laboratories, animal laboratories, animal research centers, animal quarantine areas, animal holding areas, kennels, animal hospitals, animal breeding facilities, breeding establishments, animal husbandry establishments, grooming establishments, animal housing facilities, zoos, tack shops, pet shops, operating rooms, washing areas, waiting rooms, examination rooms, animal care facilities; livestock, equine and poultry based veterinary facilities; restrooms, shower and bath areas.

Farmhouses, barns, sheds, cattle, swine, sheep, horse barns; calf hutches, feed silos and storage facilities, pens and stalls, swine quarters, livestock farms, brooder houses; calving, hog, cattle and horse operations, livestock pens, exotic animal farming operations: swine waterers, feeders and hauling equipment; dairy farming operations (barns and milk houses); delivery trucks; swine premises including: farrowing barns and areas, nurseries, blocks, creep areas, and chutes; poultry and turkey farms inclusive of: breeder, pullet, and broiler farms; poultry premises (hatcheries) including: egg trucks, egg receiving areas, egg holding areas, tray dumping areas, setter rooms, hatchers, chick holding areas, chick processing areas, chick loading areas, poultry buildings including public spaces, chick vans, hatchery and farm vehicles, poultry transport vehicles.

SURFACES: Poultry farm equipment, egg conveyors, hen boxes, egg pads, litter, hatchers, setters, trays, racks, egg flats, chick boxes, egg cases, vans and trash containers, water lines, feed conveyors, carts, sexing tables; automated tray, rack and buggy washers; egg receiving and egg holding areas, conveyor systems and belts; hard non-porous surfaces, veterinary equipment, case goods, kennel runs, cages, kennel/cage floors, conductive flooring, examination tables, veterinary x-ray tables, loading platforms, animal equipment; farming equipment, harvesting and handling equipment; air filters for furnaces, air-conditioners, air purification devices, recirculating air handling systems, waste receptacles, washing machines. Building materials and components for floors, walls, ceilings and fixtures; insulation, cabinetry, wallboard, wood and wood components: cellulosic sheathing, sealed foundations, plumbing fixtures, lighting fixtures, metal structural components, vinyl, stone, roofing materials, brick, cement, concrete, masonry materials (mortar), composite materials, painted surfaces, glass surfaces, aluminum, brass, copper, laminated surfaces, metal, plated steel, stainless steel; glazed porcelain, tile, and ceramic; sealed granite and marble; plastic, sealed limestone, slate, and stone; chrome, Plexiglas®, enameled surfaces, Formica®; water supply lines and tubing; countertops, bathroom and kitchen sinks; shelves, racks, fabrics: natural, synthetic, woven and non-woven; Personal Protective Equipment (PPE).
FOR USE AS AN ANTIMICROBIAL UNDER EPA REGULATIONS

DIRECTIONS PRIOR TO COMMERCIAL & INDUSTRIAL USE

This product can be applied to organic or inorganic substrates by spraying. Dry substrates at temperatures from ambient to a maximum of 160°C (320°F) to effect complete condensation of silanol groups and to remove water, solvents, and/or traces of methanol from hydrolysis. Optimum application and drying conditions, such as time and temperature, should be determined for each application before use. If necessary, reapply this product every three months (90 days) or when odor, staining, and discoloration due to bacteria, mold, or mildew returns.

Test fabric or surface in an inconspicuous area for color fastness or adverse reaction.

FOR PUMP SPRAY APPLICATION:

Spray entire area 4 to 6 inches from the surface making sure the surface is completely covered. Apply and then let stand until dry or let stand 3 minutes and wipe dry with cloth or sponge. If spotting occurs, wipe with moist cloth or sponge.

Test for staining and color-fastness of fabrics and carpets by treating and drying a small, concealed area prior to application. When treating coarser substrates, more of this product may be required due to absorption. A fan may be used to assist in drying.

FOR COMMERCIAL SPRAY APPLICATION FABRIC:

For commercial application equipment (i.e. carpet/upholstery steamers, rotary jet extraction cleaners, pressure sprayers) apply without dilution and then let stand until dry or let stand 3 minutes and wipe dry with cloth or sponge. If spotting occurs, wipe with moist cloth or sponge. Test for staining and color-fastness of fabrics and carpets by treating and drying a small, concealed area prior to application. When treating coarser substrates, more of this product may be required due to absorption. Spray application is preferred on large surfaces that are easily accessible. The spray equipment chosen should provide a consistent fine (1-300 micron) particle size and uniform spray pattern.

Pump up garden type sprayers can be used but care must be taken to maintain maximum pressure by pumping frequently and adjusting the spray nozzle for the finest spray pattern possible.

During application achieve complete uniform coverage. Avoid excessive wetting and do not allow the spray to run or pool. Excess moisture should be removed with a clean, dry towel.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal. Keep from freezing.

STORAGE:
Store in original, tightly closed containers below 30°C (86°F) and above 0°C (32°F) in a secure area inaccessible to children and away from food or feed.

PESTICIDE DISPOSAL:
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:
Non-Refillable Container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip back and forth several times. Follow Pesticide Disposal instructions for rinsate disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS:
Causes moderate eye irritation. Avoid contact with eyes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish in its liquid form. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

De-activation may be required during clean up if a spill occurs. De-activation of this product can be achieved by the addition of an anionic surfactant (such as soaps, sulfonates, sulfates) in quantities equivalent to the percentage of active ingredient(s) in this product.

FIRST AID

In case of emergency, call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

For general information on product use, etc., call 1-800-858-7378. You may also contact 1-303-595-4869, the poison control center, for emergency medical treatment information. Intervet Inc.

Manufactured for Intervet Inc (d/b/a Merck Animal Health) 126 E. Lincoln Ave. Rahway. NJ 07065 by Good Salt™ Life

MERCK Animal Health

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US-COC-250300001

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