Date of Approval: July 16, 2026

FREEDOM OF INFORMATION (FOI) SUMMARY

SUPPLEMENTAL NEW ANIMAL DRUG APPLICATION (NADA)

NADA 141-607

Exzolt™

(fluralaner oral solution)

Concentrated solution

Laying hens, Replacement chickens, and Breeder chickens

Addition of the target animal subclass breeder chickens.

Sponsored by:

Intervet, Inc.

Executive Summary

Exzolt™ (fluralaner oral solution) is approved for the treatment and control of northern fowl mites (*Ornithonyssus sylviarum*) in laying hens and replacement chickens. This supplemental approval of Exzolt™ is to add the target animal subclass of breeder chickens.

Target Animal Safety and Effectiveness

The effectiveness of Exzolt™ for this supplemental approval was demonstrated in one field study in breeder chickens. Exzolt™ administered as two single doses of 0.5 mg fluralaner/kg body weight in medicated water 7 days apart was 100% effective against northern fowl mites in breeder chickens from Day 8 through Day 28 after the first treatment.

FDA did not require the sponsor to conduct new target animal safety studies for this supplemental approval. Target animal safety in breeder chickens was supported by studies included in the original approval of Exzolt™.

Human Food Safety

As this drug is not an antimicrobial, FDA determined that a microbial food safety (antimicrobial resistance) assessment was not required for this supplemental approval.

FDA determined it was not necessary to reassess the acceptable daily intake (ADI) for total residue of fluralaner for this supplemental approval. FDA previously established an ADI for total residue of fluralaner as 10 µg/kg body weight per day and the safe concentrations in the individual edible tissues of chickens are 440 parts per billion (ppb) for muscle, 1,320 ppb for liver, 2,640 ppb for skin with fat in natural proportions, and 4,260 ppb for eggs.

FDA did not require residue chemistry studies for this supplemental approval. The withdrawal period of 11 days and egg discard time of 0 days remain the same as previously established in the original approval of Exzolt™.

User Safety

The product labeling contains precautions for people handling or administering Exzolt™. This includes wearing protective gloves, avoiding skin/eye contact and ingestion, and washing hands after use. The label states that accidental exposure may cause skin/eye irritation and accidental ingestion may cause gastrointestinal disturbances.

Conclusions

Based on the data submitted, FDA determined that Exzolt™ is safe and effective when used according to the labeling.

Table of Contents

I. GENERAL INFORMATION

A. File Number

NADA 141-607

B. Sponsor

Intervet, Inc.
126 E Lincoln Ave.
Rahway, NJ 07065

Drug Labeler Code: 000061

C. Proprietary Name

Exzolt™

D. Drug Product Established Name

fluralaner oral solution

E. Pharmacological Category

Antiparasitic

F. Dosage Form

Concentrated solution

G. Amount of Active Ingredient

10 mg fluralaner/mL

H. How Supplied

1- and 4-Liter high-density polyethylene (HDPE) plastic containers

I. Dispensing Status

Prescription (Rx)

J. Dosage Regimen

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).

K. Route of Administration

Oral

L. Species/Classes

Laying hens, replacement chickens, and breeder chickens

M. Indication

Exzolt™ is indicated for the treatment and control of northern fowl mites (*Ornithonyssus sylviarum*) in laying hens, replacement chickens, and breeder chickens.

N. Effect of Supplement

This supplement provides for the addition of the target animal subclass breeder chickens.

II. EFFECTIVENESS

A. Dosage Characterization

This supplemental approval does not change the previously approved dosage. The FOI Summary for the original approval of NADA 141-607 dated July 17, 2025, contains dosage characterization information for breeder chickens.

B. Substantial Evidence

1. Field effectiveness study in breeder chickens

   Title: Evaluation of the field effectiveness and safety of Fluralaner solution (10 mg/mL) administered orally at two single doses of 0.5 mg/kg body weight, 7 days apart in the treatment of Northern Fowl Mites (*Ornithonyssus sylviarum*) in breeding chickens. (Study No. S19187-00)

   Study Dates: May 2020 to November 2025

   Study Location: University Park, PA

   Study Design:

   Objective: To evaluate the field effectiveness and safety of Exzolt™ administered as two single doses of 0.5 mg fluralaner/kg body weight (bw) in medicated water 7 days apart against northern fowl mites (*Ornithonyssus sylviarum*) in breeder chickens.

   Study Animals: Seven hundred eighty hens (Ross 708) and 60 roosters (Hubbard M99) that were artificially infested with northern fowl mites were enrolled in the study. The birds were 25 weeks old when the first dose was administered on Day 0.

   Experimental Design: Approximately 3 weeks before enrollment, each study bird was artificially infested with 50 to 100 northern fowl mites. Prior to enrollment, 840 healthy birds with established mite infestations were selected and assigned to each of the 12 pens (65 hens and 5 roosters in each pen, with a total of 390 hens and 30 roosters per treatment).

On Study Day -2, pens were randomly assigned to treatment groups using a randomized complete block design with the Day -5 pen arithmetic mean mite counts of 11 birds as the blocking factor. Within each block, pens were randomly assigned to the 2 treatment groups with 6 pens in each treatment group. All study personnel except individuals involved in treatment assignments and treatment administration were masked. The experimental unit was the pen.

Table II.1. Treatment Groups

Treatment Group	Treatment Regimen	Number of Pens	Number of Birds per pen
Control	Non-medicated water	6	65 hens and 5 roosters
Treated	0.5 mg fluralaner/kg bw on Day 0 and Day 7 orally via medicated water	6	65 hens and 5 roosters

Drug Administration: The test article was diluted to an appropriate concentration and administered orally via medicated water to provide a dose of 0.5 mg fluralaner/kg body weight to the treated group on Day 0 and Day 7. The test article volume used for the preparation of the medicated water was calculated for each pen based on the total pen bird weight determined on Day -1. The volume of water was calculated based on the water consumption measured for the pen on Days -4 to -3. Birds in the control group received non-medicated drinking water on Day 0 and Day 7. After all the water was consumed on Day 0 and Day 7, fresh, non-medicated drinking water was added to the waterers in all pens.

Measurements and Observations: Mite numbers were counted on a randomly selected sample of 10 hens and 1 rooster from each pen at each designated time point by visually examining feathers and skin in an approximately 4 x 6 cm^2 area anterior to the vent. Birds were examined by a veterinarian prior to the study and were observed daily for general health and presence of abnormalities.

Statistical Methods: The primary criteria for effectiveness were mite vent counts in the treated group compared to the control group on Days 8, 14, 18, 19, and 28.

The arithmetic mean of mite counts for each pen was transformed as $\log_e (x+1)$ and analyzed by a linear mixed model with treatment as a fixed effect and block as a random effect. The null hypothesis was that the treatment group and control group share the same mean mite counts. The hypothesis was tested at $\alpha = 0.05$ (two-sided) significance level.

The percent effectiveness at each timepoint was calculated using the formula $[100 \times (M_C - M_T) / M_C]$, where: M_C = geometric mean back-transformed from the least squares (LS) mean of the control group and M_T = geometric mean back-transformed from the LS mean of the treated group.

Exzolt™ was considered effective if, on each mite counting day, the control group had an adequate infestation (defined as at least nine of eleven birds (10 hens and 1 rooster) sampled from at least five of the six control pens having a mite count

≥25 mites per individual bird counted); percent effectiveness was ≥90%; and there was a statistically significant (p≤0.05) difference between the Exzolt™-treated group compared to the control group.

Results: The control group met the adequacy of infestation criteria on each mite counting day. Exzolt™ was 100% effective, and the mean mite counts between the two groups were significantly different (p<0.0001) at 8 days after the first treatment through Day 28 (Table II.2).

Table II.2. Comparisons of geometric means of mite counts in treated and control groups

Study Day	Control (Geometric Mean*)	Treated (Geometric Mean*)	% Effectiveness	P-value†
-5	106.09	126.83	NA	NA
2	419.74	0.64	99.8	<0.0001
8	726.37	0.00	100.0	<0.0001
14	1152.75	0.00	100.0	<0.0001
18	413.44	0.00	100.0	<0.0001
19	562.26	0.03	100.0	<0.0001
28	566.27	0.00	100.0	<0.0001

*For Days 2, 8, 14, 18, 19, and 28, Geometric Mean was back-transformed from the LS means obtained from the statistical analysis. For Day -5, Geometric Mean was computed from the observed data.
†P-value was obtained from the comparison between treatment groups.

Adverse Reactions: No test article-related adverse reactions were reported in this study.

Conclusions: This study demonstrates that Exzolt™ administered as two single doses of 0.5 mg/kg bw in medicated water 7 days apart is effective for the treatment and control of northern fowl mites (*Ornithonyssus sylviarum*) in breeder chickens.

III. TARGET ANIMAL SAFETY

FDA did not require target animal safety studies for this supplemental approval. The FOI Summary for the original approval of NADA 141-607 dated July 17, 2025, contains target animal safety information for chickens including reproductive safety in breeder chickens.

IV. HUMAN FOOD SAFETY

A. Microbial Food Safety

FDA did not require additional information for microbial food safety (antimicrobial resistance) for this supplemental approval. The FOI Summary for the original approval of NADA 141-607 dated July 17, 2025, contains a summary of all information used to assess microbial food safety (antimicrobial resistance) risks.

B. Toxicology

Reassessment of the acceptable daily intake (ADI) was not needed for this supplemental approval. The codified ADI for total residue of fluralaner is 10 µg/kg body weight per day, as listed under 21 CFR 556.290(a).

The sponsor requested revision of the safe concentrations for total residues of fluralaner in the edible tissues using a new partition of the ADI. The calculation of the tissue safe concentrations is based on the "General Principles for Evaluating the Human Food Safety of New Animal Drugs Used in Food-Producing Animals" (FDA/CVM, Guidance for Industry #3, May 2022) and reflects the partition (meat, milk, and eggs) requested by the drug sponsor. The safe concentration for total residues of fluralaner in parts per billion (ppb) in each edible tissue of chickens is calculated using the following formula:

$$\text{Safe Concentration} = \frac{\text{Percent Partition x ADI} \times \text{Human Body Weight}}{\text{Food Consumption Value}}$$

The safe concentrations for total residues of fluralaner in the individual edible tissues of chickens are 440 ppb for muscle, 1,320 ppb for liver, 2,640 ppb for skin with fat in natural proportions, and 4,260 ppb for eggs. These values reflect the partition of the ADI between meat (22% of the ADI) and eggs (71% of the ADI), and the amount reserved for milk (7% of the ADI).

The FOI Summary for the original approval of NADA 141-607 dated July 17, 2025, contains a summary of all toxicology studies and information.

C. Residue Chemistry

FDA did not require residue chemistry studies for this supplemental approval. The FOI Summary for the original approval of NADA 141-607 dated July 17, 2025, contains a summary of residue chemistry studies for chickens.

This supplement does not result in any changes to the previously established withdrawal period and egg discard time. The withdrawal period remains 11 days, and the egg discard time remains 0 days. Refer to the FOI Summary dated July 17, 2025.

D. Analytical Method for Residues

The FOI Summary for the original approval of NADA 141-607 dated July 17, 2025, contains the analytical method summaries for fluralaner in chickens.

V. USER SAFETY

The product labeling contains the following information regarding safety to humans handling, administering, or exposed to Exzolt™:

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.

VI. AGENCY CONCLUSIONS

The data submitted in support of this NADA satisfy the requirements of section 512 of the Federal Food, Drug, and Cosmetic Act (FD&C Act) and 21 CFR part 514. The data demonstrate that Exzolt™, when used according to the label, is safe and effective for the effect of supplement in the General Information Section above. Additionally, data demonstrate that residues in food products derived from species treated with Exzolt™ will not represent a public health concern when the product is used according to the label.

A. Marketing Status

This product may be dispensed only by or on the order of a licensed veterinarian (Rx marketing status). Adequate directions for lay use cannot be written because professional expertise is required to monitor the safe and effective use of this product.

B. Exclusivity

This supplemental approval for Exzolt™ qualifies for THREE years of marketing exclusivity under section 512(c)(2)(F)(iii) of the FD&C Act because the supplemental application included effectiveness studies. This exclusivity begins as of the date of our approval letter and only applies to indications specific to breeder chickens.

C. Supplemental Applications

This supplement is a Category II supplement as defined in (21 CFR 514.106(b)(1)). This supplemental approval did not require a reevaluation of certain safety or effectiveness data in the application.

D. Patent Information

For current information on patents, see the Green Book Reports in the Animal Drugs @ FDA database.