



Nitrogen Inhibitors/Stabilizers

Wisconsin Department of Agriculture, Trade and Consumer Protection – Bureau of Agrichemical Management

Many nitrogen inhibitor products are available to reduce the risk of nitrogen leaching, or denitrification, in crops. A few of these products are pesticides and must be handled as pesticides, **according to label instructions**. Others may require fertilizer or soil and plant additive permits, but do not require any special handling.

A product becomes a pesticide under the U.S. Environmental Protection Agency's regulations when it is used to prevent, destroy, repel or mitigate any kind of pest, whether plant, animal or microbial. That's why nitrogen inhibitors are classified as pesticides when they work by killing soil bacteria that break down nitrogen. These products may also be called nitrogen stabilizers.

When nitrapyrin is the active ingredient

- Only nitrogen inhibitors/stabilizers with **nitrapyrin** as the active ingredient are considered pesticides. There are four of these products on the market, all made by The Dow Chemical Company:
 - N-Serve 24[®] Nitrogen Stabilizer (EPA Registration No. 62719-20)
 - Instinct[®] Nitrogen Stabilizer (EPA Registration No. 62719-583)
 - Instinct[®] II Nitrogen Stabilizer (EPA Registration No. 62719-657)
 - Instinct HL[®] Nitrogen Stabilizer (EPA Registration No. 62719-692)
- Other nitrogen inhibitor products could come on the market with pesticides as active ingredients. You need to be aware of what you are buying.

Mixing and loading

- Nitrapyrin products may be mixed with commercial fertilizers or manure, or used alone. Follow label instructions that dictate the types of fertilizers -- for example, granular urea or liquid manure -- and the correct process for mixing.
 - Nitrapyrin products are commonly mixed with liquid manure as you pump it from a storage pit into hauling equipment.
 - Labels do not prohibit adding the products directly into the storage pit, but you must take special care to add the correct amount according to the label, and agitate to ensure thorough mixing before and during the loading process.
 - The manure or fertilizer is a carrier for nitrapyrin; it does not act on the carrier, but on the soil bacteria. Therefore, fertilizer and manure are not treated substances, and spreading them on the land is a pesticide application.

Applying

- Remember, the label is the law. You need to follow all the label directions for the pesticide portion of the mixture, including for specific application methods like chemigation and aerial application.

(over)

Applying (continued)

- According to the labels, nitrapyrin products can be applied to only four crops:
 - The three Instinct[®] products are labeled for use on corn, spring wheat and winter wheat.
 - N-Serve[®] 24 is labeled for use on corn, sorghum and wheat.
 - If you mix nitrapyrin into a manure storage pit, you need to take precautions to be sure the manure is applied only on land to be planted in one of the labeled crops. Any other application, including to alfalfa, will be a violation and may result in a food or feed tolerance violation.
- The labels on these products also specify a 24-hour restricted entry interval, unless you inject or incorporated the mixture into the soil.
- The nitrapyrin products are general use pesticides, not restricted use.
 - If you apply these products to your own property, you do not need to be certified as a pesticide applicator.
 - If you apply these products to someone else's property, you must be certified and licensed as a commercial pesticide applicator. This includes anyone mixing the pesticide into the fertilizer or manure, as well as anyone spreading it.
 - In addition, the Worker Protection Standard requires that anyone mixing, loading or applying a fertilizer-pesticide mixture to be 18 years old, trained and equipped as a handler. The same requirements apply to anyone incorporating the mixture into the soil during the 24-hour restricted entry period.
- You also need to know and follow restrictions specified in nutrient management plans, such as N-P-K limits or setbacks from streams and lakes.

Fertilizers, soil and plant additives

There are nitrogen stabilizer products that are not classified as pesticides. However, if the manufacturer makes fertilizer or soil/plant additive claims, these products may require Wisconsin permits, and manufacturers may require a fertilizer and/or soil and plant additive license. For example, a claim that a product improves soil health would trigger this requirement.

Learn more

<https://datcp.wi.gov>, search for Pesticide licensing

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