Specimen Label

CORTEVA™ agriscience

N-Serve® 24

Optinyte™ technology

NITROGEN STABILIZER

Use to delay nitrification of ammoniacal and urea nitrogen fertilizer compositions in the soil by controlling the nitrification process.

Active Ingredients:

nitrapyrin: 2-chloro-6-(trichloromethyl) pyridine	22.2%
Other Ingredients	77.8%
Total	100.0%

Contains petroleum distillates
Contains 2 lb of active ingredients per gallon.

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-20

Keep Out of Reach of Children

WARNING AVISO

Causes Skin Irritation • Harmful If Swallowed • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals

Do not get on skin or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are barrier laminate and viton ≥14 mils. If you want more options, follow the instructions for category G on an EPA chemical resistance category selection chart.

Mixers, loaders, applicators and other handlers must wear:

- Coveralls worn over short-sleeved shirt and short pants
- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- For overhead exposure wear chemical-resistant headgear
- When mixing, loading or cleaning equipment wear a chemical-resistant apron

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.
Note to Physician: Contains petroleum distillate – vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

This pesticide is toxic to oysters/shrimp. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

This product may contaminate water through runoff. This product has a high potential for runoff for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

A level well-maintained vegetative buffer strip between areas to which this product is applied and surface water such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Non-target Organism Advisory Statement
It is unclear how this product may impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the Spray Drift Advisories section of this label.

Physical or Chemical Hazards

Combustible. Do not use or store near heat or open flame.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves made of any waterproof material
- Chemical-resistant footwear plus socks
- Protective eyewear

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.
Pesticide Storage: Store above 28°F to keep product in solution. Below 24°F, crystals may form and settle to the bottom. To redissolve the crystals, allow the contents to warm up to about 70°F and to stand for several days at that temperature. Once the crystals have dissolved, thorough recirculation will ensure a uniform mixture of the contents.
Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Nonrefillable containers 5 gallons or less:
Container Handling: Nonrefillable container. Do not reuse or refill this container.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Refillable containers 5 gallons or larger:
Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Nonrefillable containers 5 gallons or larger:
Container Handling: Nonrefillable container. Do not reuse or refill this container.
Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 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 it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Product Information

N-Serve® 24 nitrogen stabilizer is an oil-soluble product that may be used with anhydrous ammonia, dry ammonium, and urea fertilizers. N-Serve 24 is not a substitute for fertilizer.

When combined with a compatibility agent, N-Serve 24 may be used in the application of aqua ammonia, other liquid ammoniacal or urea nitrogen fertilizer compositions. When liquid or dry ammonium or urea fertilizers or animal wastes are surface applied, N-Serve 24 may be mixed with water and a compatibility agent and applied during the incorporation operation.

Use Precautions

N-Serve 24 is corrosive to aluminum components which may affect the operation of pumping, mixing, and application equipment. Solutions of N-Serve 24 and anhydrous ammonia may cause corrosion of submerged aluminum components. To avoid corrosion, replace these aluminum parts with mild steel or stainless steel materials of construction grade/quality. Replace side-mount or end-mount liquid level float gauges containing aluminum with stainless and mild steel gauges. To minimize corrosion of equipment and for maximum effectiveness, do not store anhydrous ammonia containing N-Serve 24 longer than 3 weeks.

Replace acme fitting gaskets as needed with standard Viton gaskets. More resistant gasket materials, such as Teflon, may also be used.

Use Restrictions

- **Chemigation:** Do not apply this product through any type of irrigation system.
- Do not apply by air.

Spray Drift Advisories

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE
An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom
- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom
Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, keep the boom level with the crop and minimize bounce.

SHIELDED SPRAYERS
Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY
When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS
Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND
- Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.
- Applicators must be familiar with local wind patterns and terrain that could affect spray drift.

Mixing Directions

Anhydrous Ammonia
N-Serve 24, a product that is soluble in liquid anhydrous ammonia, may be pumped into the anhydrous tank through the liquid fill valve before, during, or after loading. Pumping and metering systems are necessary for the injection of N-Serve 24 into the tank. The ammonia-containing N-Serve 24 is then applied to cropland using conventional ammonia application equipment. Tank mixing with anhydrous ammonia is the most commonly used method of application; however, N-Serve 24 may also be applied through downstream injection systems.

Liquid Fertilizers
N-Serve 24 may be mixed with liquid fertilizers, such as aqua ammonia or other liquid ammoniacal or urea nitrogen fertilizer compositions, if a compatibility agent (registered for agricultural use where required) is used.

There are two methods which may be used to create a stable emulsion with N-Serve 24 plus a compatibility agent in liquid fertilizer:

Premix Method: The compatibility agent and N-Serve 24 may be mixed together in a separate container and then added to the liquid fertilizer. Continuously agitate as the mixture is added to the fertilizer.

Sequential Method: The compatibility agent may be added to the fertilizer and thoroughly agitated. While the agitation continues, the required amount of N-Serve 24 may be added to the tank.

Most phosphate ester types of compatibility agents are suitable for use in these mixtures. Follow the label directions for the compatibility agent to determine rates and any use precautions.

Liquid Manure
Use N-Serve 24 at the rate of 1 to 2 quarts per acre. Use the 2 quart per acre rate for all fall applications with animal manure. Premix N-Serve 24 and a phosphate ester compatibility agent at a ratio of 1 part phosphate ester compatibility agent to 8 parts N-Serve 24 before adding N-Serve 24 to the liquid animal manure.

Granular Ammonium and Urea
N-Serve 24 may be impregnated on most dry ammoniacal fertilizers or fertilizer blends containing ammoniacal fertilizers. Uniform application in the field is necessary to insure optimum results.

For impregnating N-Serve 24 on dry fertilizers, use a closed rotary drum mixer equipped with suitable spraying equipment. Position the spray nozzle inside the mixer to provide uniform spray coverage of the tumbling fertilizer. Check the crop section of this label to determine the per acre use rate of N-Serve 24. The maximum amount of N-Serve 24 to be added is one quart per 100 lb of nitrogen fertilizer and the minimum amount is one quart per 500 lb of nitrogen fertilizer. At the higher concentrations of N-Serve 24, the fertilizer may not readily absorb all of the liquid. For a suitable free-flowing mixture, add an absorptive powder, such as Micro-CelE, separately and uniformly to the fertilizer blend following addition of N-Serve 24.

Immediately apply bulk fertilizers impregnated with N-Serve 24; do not store the impregnated fertilizer. Tightly cover all bulk containers while the products are being transported and applied to reduce the chance of loss of N-Serve 24 via volatilization. Immediately incorporate all fertilizers impregnated with N-Serve 24 after application for optimal performance.

All individual state regulations, including those related to flammable liquid handling and to dry bulk blending registration, labeling and application, are the responsibility of the individual and/or company selling mixtures of N-Serve 24 and fertilizer.

Do not use N-Serve 24 with dry fertilizers containing nitrate such as ammonium nitrate, potassium nitrate or calcium nitrate. Do not mix seed with dry fertilizers impregnated with N-Serve 24.

Tank Mixing
N-Serve 24 may also be applied in tank mixtures with several preplant incorporated herbicides registered for use on corn, sorghum and wheat. The tank mixes may be in water or in most urea-ammonium nitrate solutions, and N-P-K solutions, slurries, or suspensions. Check the physical compatibility of these mixtures as indicated below. Maintain constant agitation during both mixing and application to ensure uniformity of the spray mixture. Read and carefully follow all applicable directions including dosage rates, restrictions, and precautions for the specified crops on labeling for the other products used in combination with N-Serve 24.

For best results, add the herbicide(s) to the tank after N-Serve 24 and the compatibility agent have been thoroughly mixed. Add wettable powders or flowables before emulsifiable concentrates. Continuously agitate during the mixing cycle.

Tank Mix Compatibility Test: To test the compatibility of N-Serve 24 with liquid fertilizers and/or herbicide mixes, add proportionate amounts of each ingredient to a small jar, cap, shake, and let stand for 15 minutes. Formation of precipitates or layers that do not readily redisperse indicates an incompatible mixture and should not be used.

Use Restrictions
N-Serve 24 must be injected or incorporated in a zone or band in the soil with the fertilizer at a minimum depth of 2 to 4 inches during or immediately after application.

Crops

Corn (Field, Sweet, Pop), Sorghum, Wheat

Preplant, At-Plant Row or Band Injection Application
Use N-Serve 24 at the rate of 1 quart per acre.

Preplant or At-Plant Broadcast Application
Use N-Serve 24 at the rate of 1 to 2 quarts per acre. The higher rate may be used when fall applications are made to spring planted crops.

Postplant (Side Dress) Application in Corn
Use N-Serve 24 at the rate of 1/2 to 1 quart per acre any time after crop emergence, up to 30 days post plant.

Split Application on Corn
A second application may be made postplant following a preplant or at-plant application. Use 1/2 to 1 quart of N-Serve 24 per acre. The 1 quart rate may be used where nitrogen fertilization is geared to high yield production. The total amount of N-Serve 24 applied in a split application program involving a preplant or at-plant treatment followed by a postplant treatment must not exceed 2 quarts per acre per year.

Restrictions:
- Do not apply more than 2 quarts of N-Serve 24 per acre per year on corn, sorghum, or wheat.
- Make only 1 postplant application per year. Postplant applications may only be made up to 30 days postplant on corn.
- **Replant restriction:** All crops (except for leafy vegetables and root and tuber crops) may be planted 30 days or more after last application. Leafy vegetable crops are not to be planted less than 120 days after last application. Root and tuber crops are not to be planted less than one year after last application.
- N-Serve 24 must be injected or incorporated in a zone or band in the soil with the fertilizer at a minimum depth of 2 to 4 inches during or immediately after application.

Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT PERMITTED BY LAW, Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. To the extent permitted by law, all such risks shall be assumed by buyer.

Limitation of Remedies

To the extent permitted by law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used

To the extent permitted by law, Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. To the extent permitted by law, in no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Revisions:

- Updated gasket recommendation to “Viton” (from Buna-N or Buna-S).
- Added restriction “Do not apply by air.”
- Added “Non-Target Organism Advisory Statement”
- Added “Spray Drift Advisories”