



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

June 14, 2019

Brian L. Bret, Ph.D  
Regulatory Leader  
Dow AgroSciences LLC.  
9330 Zionsville Road  
Indianapolis, IN 46268

Subject: Registration Review Label Mitigation for Nitrapyrin  
Product Name: Instinct II  
EPA Registration Number: 62719-657  
Application Date: June 28, 2018  
Decision Number: 551851

Dear Dr. Bret:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Nitrapyrin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions about this letter, please contact Srijana Shrestha by phone at 703-305-6471, or via email at [Shrestha.srijana@epa.gov](mailto:Shrestha.srijana@epa.gov).

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EPA Reg. No. 62719-657  
Decision No. 551851

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington", with a stylized flourish at the end.

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure

(Base label):

**Instinct® II****NITROGEN STABILIZER  
OPTINYTE™ TECHNOLOGY****Delays nitrification of ammoniacal and urea nitrogen fertilizer compositions in the soil by controlling the nitrification process in corn, spring and winter wheat.**

Active Ingredient:

nitrapyrin: 2-chloro-6-(trichloromethyl)pyridine.....	16.95%
Other Ingredients .....	83.05%
Total .....	100.00%

Contains Petroleum Distillate

Contains 1.58 lb of active ingredient per gallon.

**Keep Out of Reach of Children****CAUTION****Precautionary Statements****Hazards to Humans and Domestic Animals****Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.****Avoid contact with eyes or clothing.****Personal Protective Equipment (PPE)**Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, and viton  $\geq 14$  mils.**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
- When mixing and loading, or cleaning equipment, wear a chemical-resistant apron

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 thoroughly with soap and water after handling and 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.

**ACCEPTED**

Jun 14, 2019

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 62719-657

- 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 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. 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 doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: May pose an aspirational pneumonia hazard. Contains petroleum distillate.

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.

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

### (Storage and Disposal for rigid containers 5 gal or less)

#### Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**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.

**(Storage and Disposal for refillable rigid containers larger than 5 gal)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**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. Agitate vigorously or recirculate water with the pump for 2 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, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**

**Storage and Disposal**

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

**Pesticide Disposal:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

**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.

**Refer to label booklet for Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-657

EPA Est. \_\_\_\_\_

®Trademark of The Dow Chemical Company (“Dow”) or an affiliated company of Dow

**Produced for  
Dow AgroSciences LLC  
9330 Zionsville Road  
Indianapolis, IN 46268**

**NET CONTENTS \_\_\_\_\_**

(Cover, shipping container):

# Instinct® II

## NITROGEN STABILIZER OPTINYTE™ TECHNOLOGY

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

Active Ingredient:

nitrapyrin: 2-chloro-6-(trichloromethyl)	
pyridine.....	16.95%
Other Ingredients .....	83.05%
Total .....	100.00%

Contains Petroleum Distillate

Contains 1.58 lb of active ingredient per gallon.

**Keep Out of Reach of Children**

## CAUTION

### **Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

**Refer to inside of label booklet for additional precautionary information including Directions for Use.**

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**NET CONTENTS \_\_\_\_\_**

(Page 1 through end):

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

# CAUTION

**Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.**

**Avoid contact with eyes or clothing.**

### Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, and viton  $\geq 14$  mils.

### 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
- When mixing and loading, or cleaning equipment, wear a chemical-resistant apron

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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
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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.

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### **Directions for Use**

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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, restricted-entry interval, and notification to workers (as applicable). 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.

For early entry into 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, wear:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks
- Protective eyewear

#### **Storage and Disposal**

Do not contaminate water, food, or feed by storage and disposal.

**Pesticide Storage:** Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

**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:**

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## Product Information

Instinct® II nitrogen stabilizer is a water-based microencapsulated formulation of nitrapyrin that may be used in the application of aqua ammonia, other liquid ammoniacal or urea nitrogen fertilizer compositions such as 28%, 30% or 32% UAN. Instinct II is not a substitute for fertilizer.

Incorporation may occur at any time up to 10 days after application and may be either by mechanical means or by moisture (rainfall or overhead irrigation). For moisture incorporation, a minimum of 0.5 inch of moisture is necessary. If 0.5 inch of moisture does not occur within the 10-day window, incorporate mechanically with light tillage.

## Precautions and Restrictions

Instinct II is no more corrosive to standard liquid fertilizer equipment than liquid fertilizer alone or liquid manure alone.

## **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.

#### **Controlling Droplet Size – Aircraft**

Adjust Nozzles – Follow nozzle manufacturer's recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

#### **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.

#### **RELEASE HEIGHT – Aircraft**

Higher release heights increase the potential for spray drift. When applying aurally to crops, do not release the spray at a height greater than 10 feet above the crop canopy, unless a greater application height is necessary for pilot safety.

#### **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.

## Application Directions

**Aerial Application** Instinct II may be applied by aircraft in a liquid carrier such as liquid fertilizer or pesticides, or as impregnated on a granular fertilizer. See Spray Drift Advisory Information to reduce likelihood of drift on other crops or non-target areas.

**Ground Application** Instinct II may be applied through ground application equipment that may be used in the application of aqua ammonia, other liquid ammoniacal or urea nitrogen fertilizer compositions such as 28%, 30% or 32% UAN

**Chemigation** Instinct II may be applied through properly equipped chemigation systems at a preplant or preemerge application timing, yet prior to crop emergence in corn. Instinct II may be applied through properly equipped chemigation systems preplant up to 1<sup>st</sup> detectable joint (Feekes 6 or Zadock 31 growth stage) in wheat. Unless otherwise indicated in specific use directions, the application rates for chemigation are the same as those specified for broadcast applications.

**Directions for Chemigation** Apply this product only through the following irrigation systems: center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, micro sprinkler, or drip. Do not apply this product through any other type of irrigation system. Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

**Chemigation Equipment Preparation** Thoroughly clean the chemigation system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injection system with soap and/or a cleaning agent and water. Determine the amount of Instinct II needed to cover the desired acreage. Mix according to instructions in the Mixing Direction section and bring mixture to desired volume. Maintain continuous agitation during mixing and throughout the application period.

**Chemigation Equipment Calibration** In order to calibrate the irrigation system and injector to apply the mixture containing Instinct II determine the following.

- Calculate the number of acres irrigated by the system.
- Calculate the amount of Instinct II required and other premixes such as fertilizers, insecticides, or herbicides.
- Determine the irrigation rate and determine the number of minutes for the system to cover the intended treatment area.
- Divide the total gallons of Instinct II mixture needed by the number of minutes (minus time to flush out) to cover the treatment area. The following value equals the gallons per minute output that the injector or educator must deliver. Convert the gallons per minute to milliliters or ounces per minute, if needed.
- Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the timed output of the injector pump be checked at least twice before operation and the system monitored during operation.

### Chemigation Equipment Requirements

- The system must contain an air gap, an approved backflow prevention device, a functional check valve, vacuum relief valve (including inspection port), and/or low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information or state specific regulations.
- The Instinct II mixture injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The Instinct II mixture injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

- The system must contain functional interlocking controls to automatically shut off the Instinct II mixture injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump when the water pressure decreases to the point where the Instinct II mixture distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with the Instinct II mixture and capable of being fitted with a system interlock.
- To ensure uniform mixing of the Instinct II mixture into the water line, inject the mixture through a nozzle placed in the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence will assist in mixing. The injection point must be located after all back-flow prevention devices on the water line.
- The tank holding the Instinct II mixture must be free of rust, sediment and foreign material and equipped with an in-line strainer situated between the tank and the injector point.

**Chemigation Operation** Start the water pump and irrigation system and let the system achieve the desired pressure and speed before starting the injector. Check for leaks and uniformity and make repairs before any chemigation takes place. Start the injector system and calibrate according to manufacturer's specifications. The following procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, flush and clean the entire irrigation and injector system prior to shutting down the system to remove any Instinct II, herbicide, insecticide or fertilizer residue from the system.

#### **Chemigation Precautions**

- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, contact state extension service specialist, equipment manufacturers or other experts.
- A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall operate the system and make necessary adjustments should the need arise and continuously monitor the injection.

#### **Chemigation Restrictions**

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- The Instinct II mixture pipeline must contain a functional, automatic quick-closing check valve to prevent the flow fluid back toward the injection
- The Instinct II mixture injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut of the Instinct II mixture injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where Instinct II mixture distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with the Instinct II mixture and capable of being fitted with a system interlock.
- Do not allow irrigation water to collect or runoff and pose a hazard to livestock, wells or adjoining crops.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

## Mixing Directions

**Mix or shake well before using.**

### Liquid Fertilizers

Instinct II may be mixed with liquid fertilizers, such as aqua ammonia, or other liquid ammoniacal or urea nitrogen fertilizers. Instinct II can be added to urea ammonium nitrate liquid fertilizer without a compatibility agent, although when mixing Instinct II with fertilizer plus herbicides or insecticides, a jar test may indicate that a compatibility agent is needed.

There are two methods which may be used to create a stable emulsion with Instinct II plus a compatibility agent in liquid fertilizer:

**Premix Method:** The compatibility agent and Instinct II 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 Instinct II 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 Instinct II at the rate of 37 to 74 fl oz per acre. Use the 74 fl oz per acre rate for all fall applications with animal manure. To ensure uniform mixing, Instinct II may need to be premixed with a phosphate ester compatibility agent at a ratio of 1 part phosphate ester compatibility agent to 8 parts Instinct II before adding Instinct II to the liquid animal manure.

### Granular Ammonium and Urea

Instinct II may be impregnated on urea and most dry ammoniacal fertilizers or fertilizer blends containing ammoniacal fertilizers. Uniform application in the field is necessary to insure optimum results.

Various equipment can be used to impregnate Instinct II onto dry fertilizers, including vertical and horizontal mixers. Once impregnated, fertilizer may be applied with either spinner, airflow, or other suitable equipment. Apply Instinct II at a rate of 37 fl oz per acre. Use a minimum of 100 lb of dry fertilizer per acre. With lower rates of fertilizer (higher concentrations of Instinct II), the fertilizer may not readily absorb all of the liquid. For a suitable free-flowing mixture, add a drying agent, such as Hi-Sil 233, MP-79, RVM or LVM clay granules, or pelletized limestone to the mixture. Use 1 lb of drying agent per pint of Instinct II unless experience indicates a different amount works well. Do not apply more than 1 lb ai nitrapyrin per acre per year.

Immediately apply bulk fertilizers impregnated with Instinct II. Do not store the impregnated fertilizer. All individual state regulations, including those related to dry bulk blending registration, labeling and application, are the responsibility of the individual and/or company selling mixtures of Instinct II and fertilizer.

**Do not mix seed with dry fertilizers impregnated with Instinct II.**

### Tank Mixing

Instinct II may also be applied in tank mixtures with preplant incorporated or preemergence herbicides or insecticides registered for use on corn, spring wheat, or winter wheat. The tank mixes may be in water or in most urea-ammonium nitrate solutions, 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 on labeling for the other products used in combination with Instinct II.



For best results, add the herbicide(s) to the tank after Instinct II and the compatibility agent (if used) 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 Instinct II with liquid fertilizers and/or herbicide or insecticide 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.

## Directions for Use

### Corn

Instinct II may be mixed alone or in combinations with liquid fertilizers, such as UAN, aqua ammonia, or other liquid ammoniacal or urea nitrogen fertilizers, insecticides, herbicides and/or water and applied as a preplant incorporated, preemergence or postplant, application

#### Preplant, Preemergence, At-Plant Row or Band Injection Application

Use Instinct II at the rate of 37 to 74 fl oz per acre.

**Liquid Manure:** Use Instinct II at the rate of 37 to 74 fl oz per acre when fall applied with liquid manure or a minimum of 37 fl oz per acre when applied with liquid manure in the spring. Applying Instinct II with liquid manure in the spring is limited to a preplant application only.

The best practice for manure fertilizer utilization is to inject liquid manure into the soil, however surface applications are also permitted.

#### Restrictions:

- Do not apply more than a total of 74 fl oz of Instinct II (1 lb ai nitrapyrin) per acre per year on corn.
- **Replant restriction:** Do not plant any crops less than 30 days after the last application. Do not plant leafy vegetable crops less than 120 days after the last application. Do not plant root and tuber crops less than one year after the last application.

#### Postplant (Side Dress) Application

Apply 19 to 37 fl oz of Instinct II per acre after corn emergence. The application may be injected, dribbled, or applied as a band with sidedress liquid fertilizer. Instinct II may also be impregnated onto dry fertilizer and applied.

#### Restrictions:

- Any postplant application of Instinct II must be applied prior to V6 stage of growth.
- Do not apply more than a total of 74 fl oz of Instinct II (1 lb ai nitrapyrin) per acre per year on corn.
- **Replant restriction:** Do not plant any crops less than 30 days after the last application. Do not plant leafy vegetable crops less than 120 days after the last application. Do not plant root and tuber crops less than one year after the last application.

## Spring Wheat or Winter Wheat

#### Preplant, Preemergence, At-Plant Row or Band Injection Application

Instinct II may be mixed with liquid fertilizer, liquid manure, urea, insecticides, herbicides and/or water and applied as a preplant incorporated or preemergence (pre to wheat emergence). Instinct II may be used at the rate of 37 to 74 fl oz per acre when fall applied or a minimum of 37 fl oz per acre when applied in the spring.

#### Restrictions:

- Do not apply more than a total of 74 fl oz of Instinct II (1 lb ai nitrapyrin) per acre per year on wheat.

- **Replant restriction:** Do not plant any crops than 30 days after the last application. Do not plant leafy vegetable crops less than 120 days after the last application. Do not plant root and tuber crops less than one year after the last application.

### **Postplant (Side Dress) Application**

Instinct II may be applied at 37 fl oz per acre to actively growing wheat from emergence and up to 1<sup>st</sup> detectable joint (Feekes 6 or Zadock 31 growth stage). The Instinct II application may be broadcast, injected, dribbled, or applied as a band with sidedress liquid fertilizers. Instinct II may also be impregnated onto dry fertilizer and applied.

### **Restrictions:**

- Any postplant application of Instinct II must be applied prior to 1<sup>st</sup> detectable joint (Feekes 6 or Zadock 31 growth stage).
- Do not apply more than a total of 74 fl oz of Instinct II (1 lb ai nitrapyrin) per acre per year on wheat.
- **Replant restriction:** Do not plant any crops less than 30 days after the last application. Do not plant leafy vegetable crops less than 120 days after the last application. Do not plant root and tuber crops less than one year after the last application.

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## **Terms and Conditions of Use**

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### **Inherent Risks of Use**

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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.

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### **Limitation of Remedies**

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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

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