

**RESTRICTED USE PESTICIDE  
DUE TO HIGH ACUTE TOXICITY TO HUMANS**

For retail sale to and use only by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's Certification. Direct supervision for this product requires the Certified Applicator to review federal and supplemental label instructions with all personnel prior to application, mixing, loading, repair or cleaning of application equipment.

**GROUP 1A INSECTICIDE**

**NUDRIN<sup>TM</sup> SP**

**INSECTICIDE** *In Water Soluble Packets*

Active Ingredient	By Weight
Methomyl (S-methyl-N-[(methylcarbamoyl) oxy]thioacetimidate).....	90%
Other Ingredients.....	10%
<b>TOTAL.....</b>	<b>100%</b>

**KEEP OUT OF REACH OF CHILDREN**

**DANGER POISON**  
**PELIGRO** 

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

Manufactured for:  
**ROTAM NORTH AMERICA, INC.**  
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**Net Contents: 2 lb**  
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PRODUCT OF TAIWAN



See inside label booklet for *First Aid, additional Precautionary Statements, and Directions for Use.*

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## FIRST AID

### (CONTAINS AN N-Methyl Carbamate Insecticide THAT INHIBITS CHOLINESTERASE)

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**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.

### **ATROPINE IS AN ANTIDOTE – SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONING.**

If poisoning symptoms appear (see POISONING SYMPTOMS), get medical attention.

**POISONING SYMPTOMS** — Methomyl poisoning produces effects associated with anticholinesterase activity which may include weakness, blurred vision, headache, nausea, abdominal cramps, discomfort in the chest, constriction of pupils, sweating, slow pulse, muscle tremors. If poisoning symptoms appear, refer to First Aid section and seek medical attention at once.

## NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

**TREATMENT** — Atropine sulfate should be used for treatment. Administer repeated doses, 1.2 to 2.0 mg. intravenously every 10 to 30 minutes until full atropinization is achieved. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until recovery is assured.

Do not use 2-PAM for exposure to NUDRIN SP INSECTICIDE alone. However, for exposure to combinations of NUDRIN SP INSECTICIDE and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulfate treatment. Do not use morphine. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

You may also contact the National Poison Control Center 24-hr Emergency Hotline at: 1-800-222-1222.

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS**  
**AND DOMESTIC ANIMALS**  
**KEEP OUT OF REACH OF CHILDREN**  
**DANGER**  **POISON**  
**PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

Restricted Use Pesticide due to toxicity categories. For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

Fatal if swallowed. May be fatal if inhaled or gets in eyes. Do not breathe dust. Do not get in eyes. Avoid contact with clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Mixers, loaders, applicators, cleaners, repairers of application equipment, and others exposed to the concentrate must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber
- Socks and chemical resistant footwear
- Protective eyewear
- Chemical resistant apron
- Respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or a canister with any R, P, or HE prefilter

Discard clothing or 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

## ENGINEERING CONTROL STATEMENTS

### **Human flaggers must be in enclosed cabs.**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

The enclosed cabs must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR part 170.240 (d)(4-6)]. The handler PPE requirements may be reduced or modified as specified in the WPS.

Water soluble packets when used correctly qualify as a closed loading system under the WPS. Handlers handling this product while it is enclosed in intact water-soluble packets are permitted to wear long-sleeved shirt, long pants, shoes plus socks, chemical-resistant gloves, and chemical-resistant apron, provided the other required PPE is immediately available in case the bag is opened.

### **Pilots must not assist in the mixing and loading operations.**

## USER SAFETY RECOMMENDATIONS

### **USERS SHOULD:**

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove personal protective equipment immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.
- Remove and wash contaminated clothing before reuse.

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish, aquatic invertebrates, and mammals. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean highwater mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlying tile drainage systems that drain to surface water.

## PHYSICAL AND CHEMICAL HAZARDS

Keep container closed. Use with adequate ventilation.

# **DIRECTIONS FOR USE**

## **Restricted Use Pesticide**

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

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). REI Summary: REI peaches = 4 day; REI apple, cotton, grapefruit, lemon, nectarine, orange, tangelo, tangerine = 3 day; all other WPS uses = 48 hour REI.

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
- Chemical Resistant Gloves Category A (such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber), all  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Do not formulate this product into other end-use products without written permission from Rotam.

Do not apply thru drip chemigation unless accompanied by Rotam supplemental labeling.

NUDRIN SP INSECTICIDE should be used only in accordance with directions for use on this label or in separate Rotam supplemental labeling. Rotam will not be responsible for use of the product in a manner not specified by Rotam in the product's labeling and User assumes all risk for such use.

NUDRIN SP INSECTICIDE is a dry powder to be dissolved in water for application by mechanical ground, overhead sprinkler, or aerial application. Hand-held equipment is prohibited for application to crops.

Do not apply by ground equipment within 25 feet, or by air within 100 feet of lakes, reservoirs, rivers, estuaries, commercial fish ponds and natural, permanent streams, marshes or natural, permanent ponds. Increase the buffer zone to 450 feet from the above aquatic areas when ultra low volume application is made.

Pilots must not assist in the mixing and loading operations.

Use only in commercial and farm plantings. Not for use in home plantings. Not for use during any period after a commercial crop site is opened for public entry as a "U-Pick", "Pick Your Own" or similar operation; in no case shall preharvest applications be made after first public entry. The restricted entry interval and preharvest interval for the crop stated elsewhere on this label must be followed.

## **RESISTANCE MANAGEMENT**

For resistance management, NUDRIN SP INSECTICIDE is a group 1A insecticide. Repeated and exclusive use of NUDRIN SP INSECTICIDE or other group 1A insecticides may lead to the build-up of resistant strains of insects in some crops. Not all members of this group have been shown to be cross-resistant. Different resistance mechanisms that are not linked to target site of action, such as enhanced metabolism, are common for this group of chemicals. Alternation of compounds from different sub-groups within this group may be an acceptable part of an integrated pest management program.

Some insects are known to develop resistance to products used repeatedly for control. When this occurs, the recommended dosages fail to suppress the pest population below the economic threshold. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of mode-of-action classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area. For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://www.ircac-online.org>.

## **INTEGRATED PEST MANAGEMENT**

This product should be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## SCOUTING

Monitor insect populations to determine whether or not there is a need for application of NUDRIN SP INSECTICIDE based on locally determined economic thresholds. More than one treatment of NUDRIN SP INSECTICIDE may be required to control a population of pests.

## BENEFICIAL ARTHROPODS

NUDRIN SP INSECTICIDE at rates of 1/8 to 1/4 lb. per acre helps conserve certain beneficials, including big-eyed bugs, damsel bugs, flower bugs and spiders in cotton and soybeans. While these beneficials cannot be relied upon to control pests, they are of potential value and should be monitored along with pests in pest management programs on these crops.

## SPRAY PREPARATION

Spray equipment must be clean and free of previous pesticide deposits before applying NUDRIN SP INSECTICIDE.

Fill spray tank 1/4 to 1/2 full of water. Add NUDRIN SP INSECTICIDE directly to spray tank. Carefully open the outer barrier bag containing NUDRIN SP INSECTICIDE in a water soluble bag. Do not cut open the outer barrier bag. Invert the outer barrier bag allowing the inner water soluble bag to fall directly into the spray tank. Do not allow packets to become wet prior to adding to the spray tank. Do not handle, open, rip, tear, cut or perforate the inner water soluble bag. Mix thoroughly to fully dissolve the insecticide; once dissolved continued agitation is not required. Use mechanical or hydraulic means; do not use air agitation. Be sure the soluble packet is completely dissolved before adding any other ingredients. Spray mix should not be stored overnight in spray tank.

**Compatibility:** Since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures.

Do not use NUDRIN SP INSECTICIDE with Bordeaux mixture (copper sulfate and hydrated lime), "Du Ter" (triphenyltin hydroxide), lime sulfur, "Rayplex" iron nor in highly alkaline solutions. Use mildly alkaline mixtures immediately after mixing to prevent loss of insecticidal activity.

Tank-mix solutions containing Boron may affect solubility of the water soluble film. When using Boron containing solutions in a tank-mix, follow these procedures:

- Add the correct amount of NUDRIN SP INSECTICIDE water soluble packets first
- Be sure the soluble packets are completely dissolved
- Introduce Boron containing solutions last

If the above procedure cannot be followed, and Boron is an essential part of the spray mix, substitute NUDRIN SP INSECTICIDE formulation for the water soluble packets.

**Tank Mix Sequence:** Add different formulation types in the sequence indicated below. Allow time for complete mixing and dispersion after addition of each product.

1. NUDRIN SP INSECTICIDE and other products in water soluble bags
2. Water dispersible granules
3. Wettable powders
4. Water based suspension concentrates
5. Water soluble concentrates
6. Oil based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants, oils
9. Soluble fertilizers
10. Drift retardants

Follow local practice and manufacturer's recommendation.



## APPLICATION

Apply at the recommended rates when insect populations reach locally determined economic thresholds. Consult the cooperative extension service, professional consultants or other qualified authorities to determine appropriate threshold levels for treatment in your area.

Follow-up treatments of NUDRIN SP INSECTICIDE should be applied, as needed, to keep pest populations within threshold limits. On most crops, NUDRIN SP INSECTICIDE should be applied at 5 to 7 day intervals to maintain control. Refer to crop specific directions for use in the crop tables for more specific information on treatment intervals.

Use sufficient water to obtain thorough, uniform coverage. Since NUDRIN SP INSECTICIDE is a fast acting contact insecticide, best results follow direct spraying of the target insect.

For aerial, use a minimum of 2 gals. per acre (gpa) except 10 gpa for peaches and nectarines; 15 gpa for oranges, lemons, grapefruit, tangelos and tangerines.

For certain crops a minimum of 1 gallon per acre may be used providing the following conditions are met:

- equipment is adjusted to distribute spray uniformly over the spray swath,
- wind conditions and other factors such as temperature and humidity are such that the spray is delivered to the target area,
- local regulations do not prohibit low-volume aerial sprays, and
- use rates are applied as directed on the package label or supplemental labeling for the following crops:

Alfalfa	Celery	Peas (succulent)
Anise	Collards	Peppermint
Asparagus	Corn	Peppers
Beans	Cotton	Potato
Broccoli	Cucumber	Soybean
Brussels sprouts	Lettuce	Spinach
Cabbage	Melons	Sugar beet
Carrot	Mint	Summer Squash
Cauliflower	Peanuts	Wheat

Apply the low rates on small plants, small insects and light infestations of insects. Use intermediate rates on large insects and heavier infestations of insects. Use 1 to 3 applications of the highest recommended rate for controlling severe infestations. Thereafter, use the lowest rate possible to maintain control.

## **SPRAY TANK CLEANOUT**

Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

## **CHEMIGATION**

**Instructions for the Use of NUDRIN SP INSECTICIDE on Alfalfa, Green and Dry Bulb Onions, Potatoes, Sugar Beets and Wheat Using Overhead Sprinkler Chemigation**

Do not apply thru Drip Chemigation unless accompanied by Rotam Supplemental Labeling.

Chemigation: Overhead sprinkler chemigation is allowed for use in alfalfa, onions, potatoes, sugar beets, and wheat. Refer to supplemental, or Special Local Need (SLN) labeling or the crop specific sections of this label for use directions for chemigation. Do not apply this product through any other type of irrigation systems, except those allowed by instructions provided in a supplemental, SLN or this product label.

Overhead chemigation applications offer the advantage of greater penetration and coverage of the target plant. However, typical chemigation applications are more dilute than ground or aerial applications. For best results, it is recommended to keep the concentration of NUDRIN SP INSECTICIDE as high as possible in the application. Apply NUDRIN SP INSECTICIDE in 0.1 to 0.2 inches of water per acre. NUDRIN SP INSECTICIDE is most active as a contact insecticide, although it does also have activity via ingestion of treated plants. For best results, applications of NUDRIN SP INSECTICIDE should take place when the insects are active and most likely to come into direct contact with the application.

### **Types of Irrigation Systems**

NUDRIN SP INSECTICIDE may be applied through overhead sprinkler irrigation systems for control of various pests. Center pivot and lateral move irrigation systems are preferred. Other overhead sprinkler systems; such as end tow, side (wheel) roll and solid set, may be used if they provide uniform water distribution. Do not use filter screens smaller than 50 mesh throughout the system, due to possible build up of material on 100 mesh or smaller screens. Do not apply NUDRIN SP INSECTICIDE through any other type of irrigation systems, except those allowed by instructions provided in a supplemental, SLN, or this product label.

## **General Directions for Chemigation:**

### **Preparation**

A pesticide tank is recommended for the application of NUDRIN SP INSECTICIDE in chemigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Add 1/4 to 1/2 of the desired amount of water and then measure the required amount of NUDRIN SP INSECTICIDE into the tank. Complete filling the tank by adding the required amount of water. Agitate thoroughly to insure a uniform solution of NUDRIN SP INSECTICIDE. Once in solution, no further agitation is required. Injection solution should not be stored overnight. Highly alkaline water should be buffered so that the pH of the spray solution is in the range of neutral to slightly acidic (pH5-7).

### **Injection Into Chemigation Systems**

Inject the proper amount of the NUDRIN SP INSECTICIDE solution to the irrigation water flow using a positive displacement injection pump. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water. For continuously moving systems, inject the solution containing NUDRIN SP INSECTICIDE into the irrigation water line continually and uniformly throughout the irrigation cycle. Apply in no more than 0.2 inches of water per acre. For overhead sprinkler systems that are stationary, add the solution containing NUDRIN SP INSECTICIDE to the irrigation water line, and apply no more than 0.2 inches of water per acre, just before the end of the irrigation cycle.

### **Uniform Water Distribution**

The irrigation system used for application of NUDRIN SP INSECTICIDE must provide for uniform distribution of NUDRIN SP INSECTICIDE treated water. Non-uniform distribution might result in crop injury, lack of effectiveness or illegal pesticide residues in or on the crop being treated. Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent or other experts if you have questions about achieving uniform distribution of the application.

### **Equipment Calibration**

Calibrate the irrigation system and injector before applying NUDRIN SP INSECTICIDE. Calibrate the injection pump while the system is running using the expected irrigation rate. If you have questions about calibration, you should contact your state extension service specialists, equipment manufacturer or other experts.

### **Monitoring of Chemigation Applications**

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for cleaners and repairers of application equipment when making adjustments or repairs on the chemigation system when NUDRIN SP INSECTICIDE is in the irrigation water.

### **Required System Safety Devices**

Do not connect any irrigation system used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices are in place. Public water system means a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year.

1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. 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 pesticides and capable of being fitted with a system interlock.
7. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction.

There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

### **Posting of Areas to be Treated**

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, in-patient clinics, nursing homes, or any other public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to all the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The signs shall be printed in ENGLISH. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain

legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color, which sharply contrasts with their immediate background. At the top of the sign shall be the words "KEEP OUT", followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word "STOP". Below the symbol shall be the words "PESTICIDE IN IRRIGATED WATER".

Posting for chemigation does not replace other posting and reentry requirements for farm worker safety.

### **Operation**

Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injection system according to the directions above. This procedure is necessary to deliver the desired rate per acre in a uniform manner. Apply NUDRIN SP INSECTICIDE in 0.1 to 0.2 inches of water per acre. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system. End guns must be turned off during the application, if they irrigate nontarget areas or if they do not provide uniform application and coverage.

It is recommended that nozzles in the immediate area of control panels, chemical supply tanks, wellheads and system safety devices be plugged to prevent contamination of these areas.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.

### **Cleaning the System**

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

## **SPRAY DRIFT MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory Information](#).

# AERIAL DRIFT REDUCTION ADVISORY INFORMATION

## Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See **Wind, Temperature and Humidity, and Temperature Inversions** sections of this label.

## Controlling Droplet Size - General Techniques

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

## Controlling Droplet Size – Aircraft

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types and the lowest drift.
- **Boom Length** - For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height** - Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Swath Adjustment** - When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downward edges of the fields, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

## **BOOM HEIGHT**

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

## **WIND**

Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. **AVOID GUSTY OR WINDLESS CONDITIONS.**

**Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

## **TEMPERATURE AND HUMIDITY**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

## **TEMPERATURE INVERSIONS**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified 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.

## **SENSITIVE AREAS**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

## **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

## **AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

## **AIR ASSISTED (AIR BLAST) TREE AND VINE SPRAYERS**

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. These sprayers are not suitable for applying herbicides. In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift.

*Adjust deflectors and aiming devices so that spray is only directed into the canopy.*

*Block off upward pointed nozzles when there is no overhanging canopy.*

*Use only enough air volume to penetrate the canopy and provide good coverage.*

*Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.*



## CROP AND RATE TABLES

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Alfalfa</b>	Pea Aphid Lygus Bugs Blotch Leafminer Aphids Egyptian Alfalfa Weevil Larvae Loopers Beet Armyworm Armyworm Alfalfa Caterpillar Fall Armyworm Western Yellowstriped Armyworm Yellowstriped Armyworm	1/2 – 1	7 *	48 hrs
	Alfalfa Weevil Larvae	1		
	Variegated Cutworm	1/4 - 1		
	<p>Do not apply to dormant or semi-dormant alfalfa when min. daily temp. is 50° F, or lower.</p> <p>Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop.</p> <p>Do not make more than 10 applications per crop.</p> <p>Chemigation: NUDRIN SP INSECTICIDE may be applied by overhead sprinkler chemigation. For best results, use the highest listed rate of NUDRIN SP INSECTICIDE. Apply in 0.1 to 0.2 inches of water per acre. See CHEMIGATION section for more information.</p> <p>* Do not apply within 7 days of cutting or allowing livestock to graze.</p>			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Anise</b> (Fennel)	Cabbage Looper	1	7	48 hrs
	Beet Armyworm	1/2 - 1		
	Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop.			
<b>Apple</b> (Ground application only)	Apple Aphid Rosy Apple Aphid Tufted Apple Budmoth Green Fruitworm Tarnished Plant Bug	1/2 - 1 *	14	72 hrs
	Codling Moth (10-12 day spray intervals)			
	Leafrollers (Fruit-tree, Obliquebanded, Redbanded, Variegated) Lesser Appleworm White Apple Leafhopper Tentiform Leafminer Cutworm	1 *		
	Do not use on Early Macintosh & Wealthy varieties. Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 5 applications per crop; minimum interval between treatments is 7 days. * Apply in a minimum of 50 gallons of water per acre.			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Asparagus</b>	Beet Armyworm Western Yellowstriped Armyworm Asparagus Beetle Spotted Asparagus Beetle White Cutworm Redbacked Cutworm	1/2 - 1	1	48 hrs
	Variegated Cutworm	1/2		
	Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop.			
<b>Avocado</b>	Western Avocado Leafroller Omnivorous Looper	1/2 - 1	1	48 hrs
	Do not apply more than 1 pound of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 2 applications per crop.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI	
<b>Beans</b> (Succulent) Including:  Kidney Lima Mung Navy Pinto Snap Wax Broad Fava  Asparagus Blackeyed peas Cowpeas Chick peas Garbanzo beans Sweet lupine White sweet lupine White lupine Grain lupine	Leafhopper Mexican Bean Beetle	1/4 – 1	Succulent Beans	48 hrs	
	Fall Armyworm Variegated Cutworm	1/2	1/4 – 1/2 lb.-- 1, over 1/2 lb. -- 3;		
	Beet Armyworm Corn Earworm Saltmarsh Caterpillar Yellowstriped Armyworm Western Yellowstriped Armyworm Lygus Bugs Thrips Aphids Loopers*	1/2 - 1	3 - Vines 7 - Hay		
	European Corn Borer (Ovicide & Larvicide)-- Initiate when moth flights first appear and continue preventive treatments at 3-4 day intervals to control eggs and larvae.				
	Spotted Cucumber Beetle	1/4 – 1/2			
		Succulent Beans - Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop. * Do not use for Loopers in AL & GA.			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Beans</b> (Dry) (Same as Beans, Succulent)	(Same as Beans, Succulent)	(Same as Beans, Succulent)	14 - Dry Beans * 14 - Vines * 14 - Hay *	48 hrs
	Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop. Do not use for Loopers in AL & GA. *Do not apply within 14 days of cutting.			
<b>Beets</b> (Table)	Imported Cabbageworm	1/4 - 1	0 - roots 10 -tops	48 hrs
	Beet Armyworm Cabbage Looper Diamondback Moth	1/2 - 1		
	Cucumber Beetle Variegated Cutworm	1/2		
	Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop.			
<b>Bermudagrass pasture</b>	Fall Armyworm Armyworm Striped Grass Looper	1/4 - 1	7 - Forage * 3 - Dehydrated Hay **	48 hrs
	Do not apply more than 1 pound of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop. * Do not apply within 7 days of feeding forage or allowing livestock to graze. ** Do not apply within 3 days of cutting for hay.			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Blueberries</b>	Blueberry Leafhopper Aphids Tussock Moth Weevil Sharp-Nosed Leafhopper	1/2	3	48 hrs
	Cranberry Fruitworm* Cherry Fruitworm*	1/2 - 1		
	Flea Beetle (larvae) Sawfly (larvae) Blueberry Leafroller	1		
	Blueberry Maggot	1/4 - 1/2		
	Do not apply during bloom. Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop. * For ground use only.			
<b>Broccoli</b>	Loopers Diamondback Moth	1/2 - 1**	3	48 hrs
	Imported Cabbageworm	1/4 - 1**		
	Do not apply more than 7 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop; minimum interval between treatments is 2 days. ** Add a wetting agent to improve coverage.			
<b>Brussels Sprouts</b>	Loopers Imported Cabbageworm Diamondback Moth	1/2 - 1 **	3	48 hrs
	Variegated Cutworm	1/2 **		
	Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop; minimum interval between treatments is 2 days. ** Add a wetting agent to improve coverage			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Cabbage</b>	Loopers * Diamondback Moth Fall Armyworm	1/2 - 1 **	1	48 hrs
	Imported Cabbageworm	1/4 - 1 **		
	Variegated Cutworm	1/2 **		
	Do not apply more than 8 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 15 applications per crop; minimum interval between treatments is 2 days. * Do not use for Loopers in AL & GA. ** Add a wetting agent to improve coverage			
<b>Carrot</b>	Beet Armyworm Armyworms Aster Leafhopper	1/2 - 1	1	48 hrs
	Variegated Cutworm	1/4 - 1/2		
	Do not apply more than 7 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop.			
<b>Cauliflower</b>	Imported Cabbageworm	1/4 - 1 **	3	48 hrs
	Loopers Diamondback Moth	1/2 - 1 **		
	Variegated Cutworm	1/2 **		
	Do not apply more than 8 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop; minimum interval between treatments is 2 days. ** Add a wetting agent to improve coverage.			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Celery</b>	Beet Armyworm Aster Leafhopper	1/2 – 1	7	48 hrs
	Loopers	1		
	Variagated Cutworm	1/2		
	Armyworms	1/4 - 1		
	Do not apply more than 7 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop.			
<b>Chicory</b>	Beet Armyworm Variagated Cutworm Leafhoppers	1/2 -1	80	48 hrs
	Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 2 applications per crop.			
<b>Chinese Cabbage</b>	Loopers Beet Armyworm	1/2 - 1*	10	48 hrs
	Do not apply more than 8 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop. * Minimum of 25 gallons water per acre by ground or 5 gallons by air.			



<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Collards</b> (Fresh market only)	Diamondback Moth Variegated Cutworm	1/2	10	48 hrs
	Imported Cabbageworm Beet Armyworm Loopers*	1/2 - 1		
	Do not apply when temperature is less than 50° F. Do not apply when crop is less than 10" tall. Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop. * Do not use for Loopers in AL & GA.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
Corn (Field, Popcorn & Seed)	Earworm – (Ovicide/Larvicide) Armyworm Fall Armyworm European Corn Borer Ears 1-3 days or as needed Corn Rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids	1/4 – 1/2	21 - Ears 3 - Forage* 21 - Stover*	48 hrs
	Variegated Cutworm Beet Armyworm	1/2		
	<p>Do not apply more than 2.5 pounds of NUDRIN SP INSECTICIDE per acre per crop.</p> <p>Do not make more than 5 applications per crop.</p> <p>*Corn forage is green actively growing plants that are harvested with the ears intact, then plants can be fed directly to animals or used to make silage. Corn stover are the parts of the plant that remain after removal of the grain at full plant maturity. These remaining stalks and leaves can be fed as roughage to animals.</p> <p>Timing of applications: Do not make more than two applications to corn prior to tassel push. Make 1 application when corn is at 1-2 leaf stage for control of early season pests; make a second application, if needed, 5-7 days later.</p>			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Corn</b> (Sweet)	Earworm--Whorl as needed	1/3 – 1/2	0 - Ears 3 - Forage 21 - Stover	48 hrs
	Fall Armyworm Armyworm Earworm, (Ovicide/Larvicide) European Corn Borer -Ears 1-3 days or as needed Corn Rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids	1/4 – 1/2		
	Variegated Cutworm Beet Armyworm	1/2		
	<p>Certain hybrid varieties of sweet corn are susceptible to methomyl injury. Treat a small area to determine crop safety before full scale spraying. Do not apply more than 7 pounds of NUDRIN SP INSECTICIDE per acre per crop.</p> <p>Do not make more than 28 applications per crop; minimum interval between treatments is 1 day.</p> <p>Timing of applications: Do not make more than two applications to corn prior to tassel push. Make 1 application when corn is at 1-2 leaf stage for control of early season pests; make a second application, if needed, 5-7 days later.</p>			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Cotton</b> – All U.S.	<b>Ovicide/Larvicide -</b> Bollworm Tobacco Budworm (Initiate schedule when significant numbers of eggs are present. Continue at 3 to 5-day intervals while eggs are present and larval control is adequate. If significant larvae survive, use higher rates below.) Lygus Bugs/Plant Bugs (adults and nymphs) Start treatment on low level population for suppression.	1/8 - 1/4 (see Insect Predator Section)	15	72 hrs
	Cotton Leafworm	1/4 – 1/2		
	Cotton Fleahopper (as needed)	1/8 – 1/4		
	Aphids Thrips	1/4		

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Cotton</b> (continued)  <b>East of Rockies only</b>	<b>(Early Season)</b> Bollworm Tobacco Budworm Beet Armyworm Cotton Leafperforator Fall Armyworm Lygus Bugs/Plant Bugs (adults and nymphs) Use as occasional spray in regular schedule but not more often than every 10 days.	1/2	15	72
	<b>(Late Season)</b> Bollworm Tobacco Budworm Beet Armyworm Cotton Leafperforator Fall Armyworm Lygus Bugs/Plant Bugs (adult and nymphs) Up to 3 applications at 3-5 day intervals after desired boll load set on plants.	1/2 – 3/4		
<b>Texas</b>	Cotton Aphid	1/4-2/3		
<b>West of Rockies only</b>	<b>Larvicide for worms:</b> Bollworm Fall Armyworm Tobacco Budworm Lygus Bugs Beet Armyworm	1/2-3/4		
	Cotton Leafperforator	1/3-3/4		
<p>For applications West of the Rockies, make applications on 3-5 day intervals after desired boll load set on plants.</p> <p><b>For all cotton applications:</b>            Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop.            Do not make more than 8 applications per crop .            Use may redder cotton. If excessive, stop or alternate with other insecticides.            Do not graze or feed.</p>				

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Cucumber</b>	Loopers Tobacco Budworm Beet Armyworm Yellowstriped Armyworm Granulate Cutworm Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm	1/2 - 1	1/2 lb. -- 1 Over 1/2 lb.- 3	48 hrs
	Variegated Cutworm	1/2		
	Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 12 applications per crop.			
<b>Eggplant</b>	Green Peach Aphid	1/4 – 1	5	48 hrs
	Tomato Pinworm (Ground Application Only) Beet Armyworm Corn Earworm	1/2 - 1		
	Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop.			
<b>Endive, Escarole</b>	Beet Armyworm	1/2 - 1	10	48 hrs
	Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Garlic</b>	Beet Armyworm	1/2**	7	48 hrs
	Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 6 applications per crop. ** Add a wetting agent to improve coverage.			
<b>Grapefruit CA, AZ &amp; HI only</b>	Thrips Fruittree Leafroller Orange Tortrix Western Tussock Moth Beet Armyworm	1/2 - 1	1	72 hrs
	Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop.			
<b>Horseradish (Ground application Only)</b>	Aphids Thrips	1/2	65	48 hrs
	Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop.			
<b>Leafy Green Vegetables:</b> Beet (tops), Dandelions, Kale, Mustard Greens, Parsley, Swiss Chard, Turnip Greens	Beet Armyworm Cabbage Looper* Diamondback Moth Imported Cabbageworm	1/2 - 1	10	48 hrs
	Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop. * Do not use for Cabbage Loopers in AL & GA.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Lemon</b> CA, AZ & HI only	Thrips Western Tussock Moth Orange Tortrix Beet Armyworm	1/2 - 1	1	72 hrs
	Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop.			
<b>Lentils</b>	Western Yellowstriped Armyworm	1/2 - 1	21	48 hrs
	Do not apply more than 1 pound of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 2 applications per crop.			
<b>Lettuce</b> (Head and Leaf varieties)	Alfalfa Looper	1/4 - 1	1/4-1/2 lb. - 7 over 1/2 lb. - 10	48 hrs
	Thrips Aphids Beet Armyworm Cabbage Looper Corn Earworm Aster Leafhopper	1/2 - 1		
	Variegated Cutworm	1/2		
	<b>Lettuce (head varieties)</b> Do not apply more than 6.3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 12 applications per crop; minimum interval between treatments is 2 days. <b>Lettuce (leaf varieties)</b> Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 6 applications per crop; minimum interval between treatments is 2 days.			



<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Melons</b> Including: Canteloupe Casaba Santa Claus melon Crenshaw melon Honeydew melon Honey balls Persian melon Golden Pershaw melon Mango melon Pineapple melon Snake melon Watermelon	Loopers Tobacco Budworm Beet Armyworm Yellowstriped Armyworm Granulate Cutworm Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm	1/2 - 1	1/2 lb. -- 1 over 1/2 lb. -- 3	48 hrs
	Variegated Cutworm	1/2	Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 12 applications per crop.	
<b>Mint</b> (Peppermint, Spearmint)	Variegated Cutworm Alfalfa Looper	1	14	48 hrs
	Flea Beetles	3/4 -1	Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop.	
<b>Nectarine</b> CA & AZ only	Thrips	1/2 – 1	1	72 hrs
	Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 3 applications per crop.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Onions</b> (Green & Dry Bulb)	Beet Armyworm	1/2 - 1**	7 - Green & Dry Bulb Onions	48 hrs
	Thrips* Variegated Cutworm Black Cutworm	1**		
<p><b>Onions, green</b> Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop; minimum interval between treatments is 5 days.</p> <p><b>Onions, dry bulb</b> Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop; minimum treatment interval between treatments is 5 days.</p> <p>*Chemigation: NUDRIN SP INSECTICIDE may be applied by overhead sprinkler chemigation to control thrips. Begin applications before thrip populations reach 3-5 thrips per plant. For best results, add a wetting agent. Apply in 0.1 to 0.2 inches of water per acre. See CHEMIGATION section for more information.</p> <p>** Add a wetting agent to improve coverage.</p>				
<b>Oranges</b> CA, AZ & HI only	Thrips Western Tussock Moth Orange Tortrix Fruitree Leafroller Beet Armyworm Citrus Cutworm	1/2 - 1	1	72 hrs
	<p>Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop.</p>			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Peaches</b>	<p>Catfacing Insects (Plant Bugs and Stink Bugs) - Begin at petal fall and continue in cover sprays at 7 to 10-day intervals.</p> <p>Oriental Fruit Moth* -Begin at petal fall; use trapping devices and frequent field inspection to determine need for treatment. Continue treatment in cover sprays and alternate with residual-type insecticides registered for this use.</p> <p>Green Peach Aphid</p>	<p>1 lb (or 1/4 lb per 100 gal up to 400 gal per acre)</p>	<p>4</p>	<p>4 days</p>
	<p>Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 6 applications per crop. * Oriental Fruit Moth (Ground Application Only).</p>			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Peanuts</b>	Corn Earworm* Potato Leafhopper Fall Armyworm	1/4 – 1	21	48 hrs
	Beet Armyworm	3/8 - 1		
	Green Cloverworm Velvetbean Caterpillar Cabbage Looper Soybean Looper ** Thrips Granulate Cutworm	1/2 – 1		
	Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop. * NUDRIN SP INSECTICIDE has ovicidal and larvicidal control on corn earworm. **Soybean Looper is difficult to control. Do not apply to worms greater than 1/2" long. Use higher rate for severe infestations. Do not feed treated vines.			
<b>Pears</b> Northeast only	Green Fruitworm Oblique banded Leafroller	1/2 - 1*	7	48 hrs
	Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 2 applications per crop. * Apply in a minimum of 50 gallons of water per acre.			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Peas</b> (succulent) Including: Pigeon peas Chick peas Garbanzo beans Dwarf peas Garden peas Green peas English Peas Field peas Edible pod peas	Alfalfa Looper Cabbage Looper* Pea Aphid Beet Armyworm Saltmarsh Caterpillar Variegated Cutworm	1/2 - 1	1 - Peas 5 – Forage 14 - Hay	48 hrs
	Alfalfa Caterpillar Armyworm Green Cloverworm	1/4 - 1		
	Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 6 applications per crop; minimum interval between treatments is 3 days. * Do not use for Cabbage Loopers in AL & GA.			
<b>Pecans</b> Southeast only	Aphids	1/2 - 1	30	48 hrs
	Do not apply more than 7 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 7 applications per crop.			
<b>Peppers</b> Including: Bell Hot Pimentos Sweet	Loopers Beet Armyworm Green Peach Aphid Armyworm Fall Armyworm	1/2 – 1	3	48 hrs
	Variegated Cutworm	1/4 – 1/2		
	European Corn Borer	1		
	Do not apply more than 3.6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Pomegranates</b>	Omnivorous Leafroller	1	14	48 hrs
	Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 2 applications per crop.			
<b>Potato</b>	Tuberworm* Loopers Aphids Beet Armyworm Leafhoppers Fall Armyworm	1/2 – 1	6	48 hrs
	Variegated Cutworm Flea Beetles	1/2		
	Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 10 applications per crop.  Chemigation: NUDRIN SP INSECTICIDE may be applied by overhead sprinkler chemigation. For best results, use the highest listed rate of NUDRIN SP INSECTICIDE. Apply in 0.1 to 0.2 inches of water per acre. See CHEMIGATION section. *Repeat applications of NUDRIN SP INSECTICIDE on a 5-7 day schedule, or longer as needed, to control tuber worm populations. An application schedule of effective insecticides with different modes of action may be needed to keep foliar feeding larval populations as low as possible prior to harvest to reduce the risk of larval damage to the tubers. Failure to adequately control tuberworm larvae prior to crop senescence or vine kill increases the risk of tuber damage.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Sorghum</b> Including: Sudangrass (except Sweet Sorghum)	Sorghum Webworm	1/2*	14**	48 hrs
	Sorghum Midge --Apply when 50% bloom and 3-5 days later if needed. Fall Armyworm (Budworm) Beet Armyworm Corn Earworm Armyworm	1/4 – 1/2*		
	Do not apply more than 1 pound of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 2 applications per crop. * Minimum of 10 gallons per acre by ground or 2 gallons per acre by air. ** Do not apply within 14 days of feeding forage or cutting for hay.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Soybeans</b>	Green Cloverworm Velvetbean Caterpillar Mexican Bean Beetle Corn Earworm - <b>Light to moderate Infestations</b>	1/8 - 1/4 (see Insect Predator section)	14 - Soybeans 3 - Forage 12 - Hay	48 hrs
	<b>Moderate to severe infestations</b>	1/4 – 1/2		
	Soybean Aphid	1/6 -1/3		
	Beet Armyworm Salt Marsh Caterpillar Bean Leaf Beetle Fall Armyworm Thrips Silver Spotted Skipper - <b>Light to moderate infestations</b>	1/4 – 3/8		
	Silver Spotted Skipper - <b>Moderate to severe infestations</b>	3/8 – 1/2		
	Do not apply more than 1.5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 3 applications per crop.			
<b>Spinach</b>	Alfalfa Looper Cabbage Looper Beet Armyworm Fall Armyworm	1/2 - 1	7	48 hrs
	Variegated Cutworm	1/2		
	Do not apply when minimum daily temperature is 32° F, or lower. Do not apply to seedlings less than 3" diameter. Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 8 applications per crop.			



Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Sugar Beet</b>	Beet Webworm Flea Beetles Carrion Beetles Beet Armyworm* Aphids* Western Yellowstriped Armyworm*	1/4 - 1	30 - Tops 21- Roots	48 hrs
	Variegated Cutworm	1/2		
	<p>Do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop.</p> <p>Do not make more than 10 applications per crop.</p> <p>*Chemigation: NUDRIN SP INSECTICIDE may be applied by overhead sprinkler chemigation to control beet armyworm, aphids and western yellowstriped armyworm. For best results, use the highest listed rate of NUDRIN SP INSECTICIDE. Apply in 0.1 to 0.2 inches of water per acre. See CHEMIGATION section for more information.</p>			

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<p><b>Summer Squash*</b> Including:</p> <ul style="list-style-type: none"> <li>Crookneck squash</li> <li>Straightneck squash</li> <li>Scalloped squash</li> <li>Vegetable marrow</li> <li>Spaghetti squash</li> <li>Hyotan</li> <li>Cucuzza</li> <li>Hechima</li> <li>Chinese okra</li> <li>Bitter melon</li> <li>Balsam pear</li> <li>Balsam apple</li> <li>Chinese Cucumber</li> </ul>	<ul style="list-style-type: none"> <li>Loopers</li> <li>Tobacco Budworm</li> <li>Beet Armyworm</li> <li>Yellowstriped Armyworm</li> <li>Granulate Cutworm</li> <li>Flea Beetles</li> <li>Cucumber Beetles</li> <li>Melon Aphid</li> <li>Melonworm</li> <li>Pickleworm</li> <li>Fall Armyworm</li> </ul>	1/2 - 1	1/2 lb. -- 1 day over 1/2 lb.-- 3 days	48 hrs
<p>Do not apply more than 6 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 12 applications per crop. *Fruit of the Gourd (Cucurbitacae) family that are consumed when immature, 100% of the fruit is edible cooked or raw, once picked cannot be stored, has a soft rind which is easily penetrated, and if seeds were harvested they would not germinate.</p>				
<p><b>Tangelo, Tangerine</b> CA, AZ &amp; HI only</p>	<ul style="list-style-type: none"> <li>Thrips</li> <li>Western Tussock Moth</li> <li>Orange Tortrix</li> <li>Beet Armyworm</li> </ul>	1/2 - 1	1	72 hrs
<p>Do not apply more than 3 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop.</p>				

<b>Crops</b>	<b>Insects</b>	<b>Rate NUDRIN SP INSECTICIDE Lbs. Per Acre</b>	<b>Last Application -Days To Harvest</b>	<b>REI</b>
<b>Tobacco</b> (Except shade)	Flea Beetle Hornworm	1/4 – 1/2	5 - Flue cured 14 - Air or fire cured	48 hrs
	Loopers Aphids Tobacco Budworm Fall Armyworm	1/2		
	Do not apply more than 2.5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 5 applications per crop.			
<b>Tomato</b> (Including Tomatillos*)	Tomato Fruitworm Aphids Hornworm Loopers Beet Armyworm Southern Armyworm Pinworm Armyworm Fall Armyworm	1/2 - 1	1	48 hrs
	Variegated Cutworm	1/2		
	Do not apply more than 7 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 16 applications per crop. * For tomatillos do not apply more than 5 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 5 applications per crop.			

Crops	Insects	Rate NUDRIN SP INSECTICIDE Lbs. Per Acre	Last Application -Days To Harvest	REI
<b>Turf</b> (For use on sod farms only)	Sod Webworm (after application, sprinkle irrigate for 15 minutes)	1 (2/5 oz. per 1000 sq. ft.)		48 hrs
	Do not apply more than 4 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop. Do not graze or feed.			
<b>Wheat</b> (States of Idaho, Oregon, and Washington only)	Armyworms Cereal Leaf Beetle* Aphids**	1/4 – 1/2	7	48 hrs
	Do not apply more than 2 pounds of NUDRIN SP INSECTICIDE per acre per crop. Do not make more than 4 applications per crop. Chemigation: NUDRIN SP INSECTICIDE may be applied by overhead sprinkler chemigation. For best results, use the highest listed rate of NUDRIN SP INSECTICIDE. Apply in 0.1 to 0.2 inches of water per acre. See CHEMIGATION section for more information. *Cereal leaf beetle: NUDRIN SP INSECTICIDE can provide contact ovicidal effect on cereal leaf beetle eggs when applied according to label directions. Application should be timed to correspond with the appearance of newly laid eggs or in anticipation of egg hatch to achieve maximum ovicidal effect. Use on this pest stage (egg) is not currently registered in California. **Aphids: For aphid control, crop must be actively growing and not under stress from adverse environmental conditions (such as, extreme temperatures or drought). Applications on Russian wheat aphid need to begin when aphid population is low (<10 adults per stem).			

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Handle this package carefully to prevent breakage of inner bag when stored at low temperatures. Allow to warm above 50° F for normal handling. Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

**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: For Water Soluble Packets:** Do not reuse the outer box or the resealable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple-rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above.

**For Paper and Plastic Bags:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**In the event of a major spill, fire or other emergency, call CHEMTREC Day or Night, 1-800-424-9300.**

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**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Rotam North America, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Rotam North America, Inc. and Seller harmless for any claims relating to such factors.

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