

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460



OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

July 2, 2014

Ms. Laura Phelps
Makhteshim Agan of North America, Inc.
3120 Highwoods Blvd. #100
Raleigh, NC 27604

Subject: Label Notification per PRN 98-10: Adding the alternate brand name "Diverge IF"
Product Name: MANA 24301
EPA Registration Number: 66222-259
Application Date: June 17, 2014
Decision Number: 492701

Dear Ms. Phelps:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records. The alternate brand name "Diverge IF" has been added to the product record. If you have any questions, you may contact Julie Chao at (703) 308-8735 or via email at chao.julie@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Venus Eagle" followed by a horizontal line.

Venus Eagle, Product Manager 01
Insecticide-Rodenticide Branch
Registration Division
Office of Pesticide Programs
Date: July 2, 2014

RESTRICTED USE PESTICIDE

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.

GROUP

1B & 3

INSECTICIDE

MANA 24301

(alternate brand name Diverge IF)

For Use in/on corn, cotton, soybeans, tobacco and citrus orchard floors

ACTIVE INGREDIENT:	% BY WT.
Chlorpyrifos:	
O,O-diethyl-O-(3,5,6-trichloro-2-pyrinyl)phosphorothioate.....	19.8%
Bifenthrin*:	
(2 methyl[1,1'-biphenyl]-3-yl) methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate.....	2.02%
OTHER INGREDIENTS**	78.18%
TOTAL:	100.0%

*Cis isomers 97% minimum, trans isomers 3% maximum.

MANA 24301 is an emulsifiable concentrate (EC) insecticide containing 1.80 pounds chlorpyrifos per gallon and 0.18 pounds bifenthrin per gallon. Contains petroleum distillates.

KEEP OUT OF REACH OF CHILDREN

WARNING/AVISO

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:

Makhteshim Agan of North America, Inc.
3120 Highwoods Blvd., Suite 100
Raleigh, NC 27604

How can we help? 1-866-406-MANA(6262)

EPA Reg. No. 66222-259

EPA Est. No.

NET CONTENTS: _____

FIRST AID Organophosphate	
IF SWALLOWED:	<ul style="list-style-type: none">• Immediately call a poison control center or doctor.• Do not induce vomiting unless told to do so by the poison control center or doctor.• Do not give any liquid to the person.• Do not give anything by mouth to an unconscious person.
IF IN EYES:	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 to 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 INHALED:	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15 to 20 minutes.• Call a poison control center or doctor for treatment advice.

NOTIFICATION

07/02/2014

NOTE TO PHYSICIAN: This product contains a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

NOTE TO PHYSICIAN: This product contains Chlorpyrifos, a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration.

NOTE TO PHYSICIAN: Contains petroleum distillates. Vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency medical treatment information, call Prozar 24 hours a day at 1-877-250-9291.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Warning

May be fatal if swallowed. Causes substantial but temporary eye injury. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

User Safety Requirements:

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Mixers and loaders using a mechanical transfer loading system and applicators using aerial application equipment must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear

In addition to the above, mixers and loaders using a mechanical transfer loading system must wear:

- Chemical-resistant gloves
- Chemical-resistant apron
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter

See **Engineering Controls Statement** section for additional requirements.

All other mixers, loaders, applicators and handlers must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant apron when mixing or loading or exposed to the concentrate
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter
- Protective eyewear

ENGINEERING CONTROLS STATEMENT

Mixers and loaders supporting aerial applications must use a mechanical transfer system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)] for dermal protection, and must:

- Wear the personal protective equipment required above for mixers/loaders
- Wear protective eyewear

Be provided and have immediately available for use in an emergency, such as broken package, spill, or equipment breakdown: coveralls, chemical-resistant footwear and chemical-resistant headgear if overhead exposure

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]. Use of human flaggers is prohibited. Mechanical flagging equipment must be used.

When handlers use closed cab motorized ground application equipment in a manner that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands 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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. Wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish, aquatic invertebrates, small mammals and birds. Use with care when applying in areas adjacent to any body of water. 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 make any applications when weather conditions favor drift from treated areas. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

PHYSICAL OR CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Do not use with or store near any oxidizing or reducing agents, as a hazardous chemical reaction may occur.

DIRECTIONS FOR USE

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

Read entire label before using this product. This label must be in the possession of the user at the time of pesticide application.

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). The REI for each crop is listed in the directions for use associated with each crop.

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.

Certified crop advisors or persons entering under their direct supervision under certain circumstances may be exempt from the early reentry requirements pursuant to 40 CFR Part 170.

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

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves (barrier laminate or nitrile rubber or neoprene rubber or viton)
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

RESISTANCE MANAGEMENT

MANA 24301 contains a Group 1B & a Group 3 insecticide / acaricide. Insect/mite biotypes with acquired resistance to Group 1B & 3 insecticide / acaricide may eventually dominate the insect/mite population if Groups 1B & 3 insecticides/acaricides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by MANA 24301 or other Group 1B & 3.

To delay insecticide or acaricide resistance consider:

- Avoiding the consecutive use of MANA 24301 or other groups 1B & 3 insecticides/acaricides that have a similar target site of action, on the same insect/mite species.
- Using tank-mixtures or premixes with insecticides/acaricides from a different target site of action Group as long as the involved products are all registered for the same use and have different sites of action.
- Basing insecticide/acaricide use on a comprehensive IPM program.
- Monitoring treated insect/mite populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors, and/or manufacturer for insecticide/acaricide resistance management and/or IPM recommendations for the specific site and resistant pest problems.

SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. 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 regarding spraying.

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland sites, woodlands, pastures, rangelands, or animals.

For ground applications:

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from ground applications.

- Choose only nozzles and pressures that produce a medium or coarse droplet size (255 to 400 microns volume median diameter), per ASABE Standard 572. See manufacturer's catalog or USDA/NAA Applicator's Guide for spray size quality ratings.
- Apply with nozzle height no more than 4 feet above the ground or crop canopy.
- Do not apply product when wind speed exceeds 10 mph as measured by an anemometer.

Airblast Application

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from airblast applications.

- Nozzles must be directed so spray is not projected above the canopies.
- Apply only when wind speed is 3 to 10 mph at the application site as measured by an anemometer outside of the orchard on the upwind side.
- Outward pointing nozzles must be shut off when turning corners at row ends. The applicator should take into account the following best management practices to reduce off-site spray drift. This section is advisory and does not supersede mandatory label requirements.

Number of nozzles, nozzle orientation and spray volume, air speed and wind direction are key factors in adjusting airblast spray delivery to match the height and density of the crop canopy. Airblast equipment should be adjusted to provide uniform coverage while minimizing the amount of spray movement over-the-top or completely through the crop canopy.

- High air volumes deliver spray more efficiently than air at high speed. Reducing forward travel speed decreases the air speed necessary to deliver the spray to the top of the drop canopy.
- Use air guides along with the number and orientation of spray nozzles to achieve the desired spray coverage and directional control.

The following steps should be taken to minimize drift and the amount of non-target spray:

- Orient nozzles and adjust air speed/volume/direction to force the spray through the crop canopy but not allow drift past the canopy.
- Shut off spray delivery when passing gaps in crop canopy within rows.
- Spray the outside rows or orchards from outside in, directing the spray into the orchard and shutting off nozzles on the side of the sprayer away from the orchard.
- When treating smaller trees, vines or bushes, shut off top nozzles to minimize over-the-top spray movement.

For aerial applications:

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.

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or 90% of the rotor blade.
- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.
- Nozzles must produce a medium or coarser droplet size (255 to 340 microns volume median diameter) per ASABE Standard 572 under application conditions. Airspeed, pressure, and nozzle angle can all affect droplet size. See manufacturer's catalog or USDA/NAAA Applicator's Guide for spray size quality ratings.
- Applications must not be made at a height greater than 10 feet above the top of the target 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.
- Use upwind swath displacement and apply only when wind speed is 3 to 10 mph as measured by an anemometer. Do not apply product when wind speed exceeds 10 mph.
- If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

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 ***Spray Drift Management*** section and the ***Aerial Drift Reduction Advisory Information***.

Aerial Drift Reduction Advisory Information

To avoid spray drift, do not apply under windy conditions. Avoid spray overlap as crop injury may result.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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).

Controlling Droplet Size

- **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. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles** - Use the minimum number of nozzles 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** - 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.

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 be made at the lowest height consistent with efficacy and flight safety. Do not make at a height greater than 10 feet above the top of the largest plants unless a greater height is recommended 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 downwind edges of the field, 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.).

Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **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 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 temperatures 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).

BUFFER ZONES

OBSERVE THE FOLLOWING PRECAUTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS OR SENSITIVE SITES.

BUFFER ZONES FOR AQUATIC HABITATS

Vegetative Buffer Strip

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply this product containing bifenthrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:

Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services.

USDA, NRCS. 2000 Fort Worth, Texas. 21 pp.

www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf

Buffer Zone for Ground Application (groundboom, overhead chemigation)

Do not apply within 25 feet (100 feet in New York) of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Ground Application (orchard airblast)

Do not apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Non-ULV Aerial Application

Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for New York for Non-ULV Aerial Application

In New York State this product may not be applied within 300 feet of coastal marshes or streams that drain into coastal marshes.

BUFFER ZONES FOR SENSITIVE SITES

The buffer distances specified in the below table are the distances in feet that must exist to separate sensitive sites from the targeted application site. Buffers are measured from the edge of the sensitive site to the edge of the application site.

Sensitive sites are areas frequented by non-occupational bystanders (especially children). These include residential lawns, pedestrian sidewalks, outdoor recreational areas such as school grounds, athletic fields, parks and all property associated with buildings occupied by humans for residential or commercial purposes. Sensitive sites include homes, farmworker housing, or other residential buildings, schools, daycare centers, nursing homes, and hospitals. Non-residential agricultural buildings, including barns, livestock facilities, sheds, and outhouses are not included in this prohibition.

Application rate (lb ai/A chlorpyrifos)	Nozzle Droplet Type	Required Setback (Buffer Zones) (feet)		
		Aerial	Airblast	Ground
>0.5 - 1	coarse or very coarse	10	10	10
>0.5 - 1	medium	25	10	10
>1 - 2	coarse or very coarse	50	10	10
>1 - 2	medium	80	10	10
>2 - 3	coarse or very coarse	80 ¹	10	10
>2 - 3	medium	100 ¹	10	10
>3 - 4	medium or coarse	NA ²	25	10
>4	medium or coarse	NA ²	50	10

¹Aerial application of greater than 2 lb ai/A is only permitted for Asian Citrus Psylla control, up to 2.3lb ai/A.

²NA =is not allowed.

Only pesticide handlers are permitted in the setback area during application of this product. Do not apply this product if anyone other than a mixer, loader, or applicator is in the setback area. Exception: Vehicles and persons riding bicycles that are passing through the setback area on public or private roadways are permitted.

APPLICATION PROCEDURES

Rate of application is variable according to pest pressure, timing of sprays, and field scouting. Use lower listed rates under light to moderate infestations; higher listed rates under heavy insect pressure and for mite control. Arid climates generally require higher listed rates.

Broadcast Foliar Application

Apply with conventional power-operated spray equipment using nozzles and spray pressures recommended for insecticides. Apply MANA 24301 in a spray volume of not less than 2 gallons per acre (gpa) for aerial application equipment (fixed wing or helicopter) or not less than 10 gpa for ground equipment, unless otherwise specified. Increase spray volume to ensure adequate coverage with increased density and height of crop canopy. See Spray Drift Precautions section for recommendations on droplet size.

Ground Application

Orient the boom and nozzles so that uniform coverage is obtained. The swath width should not be wider than the boom. Follow nozzle manufacturer's recommendations for insecticide nozzles with respect to nozzle type, pressure, and spacing.

Broadcast Soil Application

Apply with conventional power-operated spray equipment that will apply the product uniformly to the soil surface. Use nozzles that produce medium or coarse droplets (235 to 400 microns). Unless otherwise indicated, use a spray volume of 10 gpa or more. For band application, use proportionally less spray volume.

Banded-Infurrow Soil Applications

MANA 24301 can be applied in-furrow with the seed, as a T-band (band over the open furrow), as a broadcast application, as a band over the row or as a transplant-water drench during setting. Refer to the tables below for pest control or suppression recommendations.

MANA 24301 is designed to be mixed with commonly used liquid starter or pop-up fertilizers. Follow liquid fertilizer recommendations regarding seed safety and use guidelines. It is recommended that a preliminary jar test be conducted using appropriate ratios of fertilizer and MANA 24301. It is not recommended to allow a tank mixture to set overnight, but if this occurs agitate tank mixture prior to application.

Aerial Application

Use a minimum spray volume of 2.5 gpa and follow recommendations for best management practices for aerial application, above. Marking of swaths by flagging, permanent markers or use of GPS equipment is recommended. Human flaggers are prohibited.

Chemigation Use Directions

MANA 24301 may be applied to corn (field and sweet, including corn grown for seed), cotton, and soybeans. Unless otherwise indicated in specific use directions, the application rates for chemigation are the same as those specified for broadcast application.

The following use directions must be followed when MANA 24301 is applied through sprinkler irrigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues, and dispose of the residues according to state and federal laws. Flush the injector with soap and water. Determine the amount of MANA 24301 needed to cover the desired acreage. Mix according to instructions in the Mixing Directions section and bring mixture to desired volume. Do not add crop oil when MANA 24301 is applied by chemigation. Maintain continuous agitation during mixing and throughout the application. Set the sprinkler system to deliver the desired inches of water per acre. 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 injector system according to calibration instructions in the following Special Use Precautions section. The mixture containing MANA 24301 must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving to ensure uniform application at the correct rate. When the application is finished, flush and clean the entire irrigation and injector system prior to shutting down the system.

Use Precautions for Sprinkler Irrigation:

The following use directions will result in a safe and successful application of mixtures containing MANA 24301:

- Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro sprinkler, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.
- For LEPA irrigation, a minimum of 0.75 inch of water per acre is recommended.
- Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water.
- Contact your State Agricultural Extension Service specialists, equipment manufacturers or other experts for consultation on the suitability of the equipment set up to obtain effective control of the target insect pests.

- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.
- A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent areas.
- 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. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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.
- 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. The metering pump must provide a greater pressure than that of the irrigation system at the point of injection. The pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70 and must contain Viton or Teflon seals.
- To ensure uniform mixing of the insecticide 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. It is suggested that the injection point be higher than the insecticide tank to prevent siphoning.
- The tank holding the insecticide mixture should be large enough to allow the system to complete the application with 1 filling. It must be free of rust, fertilizer, sediment, and foreign material, and equipped with an in-line strainer situated between the tank and the injector pump.
- Calibration: In order to calibrate the irrigation system and injector to apply the mixture of MANA 24301, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Set the irrigation rate and determine the number of minutes for the system to cover the intended treatment area; 3) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes to cover the treatment area. This value equals the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute. 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application if they irrigate non-target areas.
- Do not allow irrigation water to collect or run off and pose a hazard to livestock, wells, or adjoining crops.
- Reentry: Follow requirements in the Agricultural Use Requirements section or crop-specific sections of this label.
- Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

This product should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation (except LEPA), a minimum of 0.5 inch per acre of irrigation water is recommended. A

diluent test should be conducted to ensure that phase separation will not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable control.

MIXING PROCEDURES

Compatibility: To determine the compatibility of MANA 24301 with other products, use the following procedure: Pour the specified proportions of the products into a suitable container of water, mix thoroughly and allow to stand at least five (5) minutes. If the combination remains mixed or can be re-mixed readily, the mixture is considered physically compatible. For further information contact your local Makhteshim Agan representative.

MANA 24301 Used Alone: When MANA 24301 is used alone, add the specified amount to the spray tank when the tank is half filled with water or other carrier, then add the rest of the water or other carrier (as permitted on this label). Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

MANA 24301 with Fertilizer: Fill the spray tank approximately one half full with water and/or liquid fertilizer, add the proper amount of MANA 24301, then add the rest of the water and/or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

Perform a jar compatibility test with the appropriate ratio of MANA 24301 and fertilizer to ensure the mixture will stay in solution. Maintain constant agitation during mixing and application.

MANA 24301 in Tank Mixtures: If a tank mixture is used, perform a compatibility test before actual tank mixing. Use a jar test for physical compatibility of untried mixtures using proper ratios and mixing sequences of all ingredients to be included in the mixture. Once compatibility is confirmed for the tank mix, fill the tank half full with water or other carrier. Start and continue agitation throughout mixing following conventional mixing order practices. MANA 24301 can be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products.

TANK-MIXTURES: MANA 24301 may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products. To insure successful applications, product compatibility tests should be conducted.

CITRUS ORCHARD FLOORS

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 10 days unless PPE required for early entry is worn.

CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION
Citrus Orchard Floors	<p>Diaprepes Root Weevil (<i>Diaprepes abbreviatus</i>), Southern Blue Green Root Weevil (<i>Pachnaeus litus</i>), Blue Green Citrus Root Weevil (<i>Pachnaeus opalus</i>), Brown leaf Notcher (<i>Epicarus mexicanus</i>), Little Leaf Notcher (<i>Artipus floridanus</i>)</p>	<p>56 – 71 fl. oz. (0.08-0.1 lb ai bifenthrin and 0.8-1.0 lb ai chlorpyrifos)</p>	<p>MANA 24301 protects citrus tree roots from Diaprepes and other citrus root weevil feeding by forming a barrier which provides contact activity on newly hatched larvae (neonates). As citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with MANA 24301 as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized.</p> <p>Timing of MANA 24301 applications is critical. Current information suggests that peak emergence of adult Diaprepes Weevil varies by citrus growing region and these emergence peaks can be dramatically affected by environmental factors, such as soil moisture. Typically, two peaks are observed for Diaprepes, first in spring then late summer or early fall. Southern Blue-Green and Blue-Green Citrus Weevils and Fuller Rose Beetle and Little Leaf Notches typically exhibit a single emergence peak in the spring. Brown and Little Leaf Notches typically exhibit three emergence peaks, spring, summer, and fall. Since emergence varies seasonally and by location, timing of MANA 24301 application can be accurately forecast by observing adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Egg laying will occur for 8 to 10 weeks following adult emergence from the soil; larval invasion of the soil will begin 2-3 weeks following adult emergence. It is critical to have the MANA 24301 soil barrier in place prior to drop of the neonates.</p> <p>MANA 24301 is one of several effective tools in an integrated pest management program for Citrus Root Weevils. Application of MANA 24301 should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus Root Weevil and other pests.</p> <p>Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer. Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring,</p> <p>71 fluid ounces of MANA 24301 should be used to obtain the longest residual management of Diaprepes root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than one peak of pest emergence, 56 fluid ounces of MANA 24301 can be applied early season and 56 fluid ounces of MANA 24301 can be applied later in the season.</p>

Use Restrictions:

- Do not apply in tank mixture with herbicides containing the active ingredient ametryn (such as Evik herbicide).
- Do not apply through irrigation systems.
- Do not allow any application of MANA 24301 to contact fruit or foliage.
- Do not allow meat or dairy animals to graze in treated areas.
- Maximum single application rate is 71 fl oz of MANA 24301 (1 lb ai chlorpyrifos, 0.1 lb ai bifenthrin)..
- Do not apply more than a total of 213 fl oz of MANA 24301 per year (3 lb ai chlorpyrifos, 0.3 lb ai bifenthrin).
- Do not make more than 3 applications of MANA 24301 or other products containing Chlorpyrifos per year (does not include foliar applications to citrus trees).
- Do not make a second application of MANA 24301 or other product containing Chlorpyrifos within 10 days of the first application.
- Foliar applications of other products containing Chlorpyrifos may be made in addition to the orchard floor treatments but must comply with the 10 day re-treatment interval.
- Ground application only. Do not apply by air.
- Do not apply within 28 days of harvest.
- Not for use in Mississippi.

**FIELD CORN and SWEET CORN AT PLANT
Grain, Silage and Corn Grown for Seed**

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION					
Field Corn Sweet Corn at plant	Corn Rootworm larvae (Northern, Southern, Western)	55-69 fl.oz. (3.2-4.0 fl. Oz. per 1000 linear ft.) (0.08-0.1 lb. ai. Bifenthrin and 0.78-0.79 lb. ai chlorpyrifos)	When applied as directed, MANA 24301 will provide control of the following pests listed in the table below. Apply as a 5 to 7 inch band (T-band) over an open furrow, or in-furrow with the seed. For Army cutworm, Stalkborer, Cutworm spp., True armyworm or Armyworm spp., apply as a 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band), in-furrow with the seed, or broadcast to the soil surface This product is compatible with all ALS inhibitor herbicides applied in accordance with label recommendations. Refer to product labels for additional precautions and directions for use.					
	Grape colapsis Grubs Root aphids Seedcorn maggot Wireworm	28-55 fl.oz. (1.6-3.2 fl. Oz. per 1000 linear ft.) (0.04-0.08 lb. ai. Bifenthrin and 0.39-0.78 lb. ai chlorpyrifos)						
	Army cutworm Armyworm spp. Cutworm spp. Stalkborer True armyworm	28-55 fl.oz. (1.6-3.2 fl. Oz. per 1000 linear ft.) (0.04-0.08 lb. ai. Bifenthrin and 0.39-0.78 lb. ai chlorpyrifos)						
Fluid oz of MANA 24301 Required per acre for Various Row Spacing								
Fluid Oz of MANA 24301 per 1000 ft row	40"	38"	36"	34"	32"	30"	22"	18"
1.6	21	22	24	25	26	28	38	47
3.2	42	44	46	49	52	56	69.7	69.7
4	52	55	58	61	65	69.7	69.7	69.7

Use Restrictions:

- Do not apply more than 0.1 lb a.i. of Bifenthrin per acre per season as an at-plant application (71 fl. oz MANA 24301).
- For field corn do not apply more than 213 fl. oz ounces of this product (0.3 lb bifenthrin). If subsequent applications of bifenthrin are made, the total amount of bifenthrin from this product and any other products containing bifenthrin must not exceed 0.3 lb ai per A per season.
- For sweet corn do not apply more than 142 fl. oz ounces of this product (0.3 lb bifenthrin). If subsequent applications of bifenthrin are made, the total amount of bifenthrin from this product and any other products containing bifenthrin must not exceed 0.2 lb ai per A per season.
- Do not make aerial or ground applications to corn if heavy rainfall is imminent.
- Use of MANA 24301 on corn is prohibited in all coastal counties.
- Do not apply more than a total of 3 lb a.i. chlorpyrifos per acre per season (213fl. oz MANA24301)
- Do not make a second application of MANA 24301 or another product containing Chlorpyrifos within 10 days of the first application.
- Not for use in California.

CORN Preemergence (PRE) & Preplant Incorporated (PPI)*

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.			
CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION
Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed	Armyworm spp. Black Cutworm Grape colapsis Seedcorn maggot White Grub Wireworm	32-43 fl.oz. PPI (0.05-0.06 lb. ai. Bifenthrin and 0.45-0.61 lb. ai chlorpyrifos)	Apply as a broadcast spray to surface trash and exposed soil using power-operated ground spray equipment. Use a total spray volume of 20 gpa or more. Use a higher listed rate in the rate range to extend residual control.
	Black Cutworm Armyworm spp. Stalkborer	28 fl.oz. PRE (0.04 lb. ai. Bifenthrin and 0.39 lb. ai chlorpyrifos)	When applied as directed, MANA 24301 will provide control of the following pests listed. For PPI treatments, the 32 - 43 fluid oz/A rate must be used. MANA 24301 can be tank mixed and applied with PPI herbicides. Incorporation of MANA 24301 should not be any deeper than the intended planting depth and no deeper than 3 inches. Incorporation depth should be close to the intended seed planting depth. For PRE treatments, the 28 fluid oz/A rate may be applied and can be tank mixed and applied with PRE herbicides.

	<p>Use Restrictions:</p> <p><u>For field corn-</u></p> <ul style="list-style-type: none"> Do not apply more than 213 fl. ounces of this product (0.3 lb bifenthrin and 3 lb ai chlorpyrifos). If subsequent applications of bifenthrin are made, the total from this product and any other products containing bifenthrin must not exceed 0.3 lb ai per A per season. If subsequent applications of chlorpyrifos are made, the total from this product and any other products containing chlorpyrifos must not exceed 3 lb ai per A per season. Do not make a second application of MANA 24301 or another product containing Chlorpyrifos within 10 days of the first application. <p><u>For sweet corn-</u></p> <ul style="list-style-type: none"> Do not apply more than 142 fl. ounces of this product (0.2 lb bifenthrin and 2 lb ai chlorpyrifos). If subsequent applications of bifenthrin are made, the total from this product and any other products containing bifenthrin must not exceed 0.2 lb ai per A per season. Do not apply more than a total of 3 lb a.i. chlorpyrifos per acre per season Do not make a second application of MANA 24301 or another product containing Chlorpyrifos within 10 days of the first application. Do not make aerial or ground applications to corn if heavy rainfall is imminent. Use of MANA 24301 on corn is prohibited in all coastal counties. <p>PPI use is not permitted in California</p>
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CORN (Postplant)

Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed

Worker Restricted Entry Interval: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.			
CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION
Field Corn (Grain and Silage), Popcorn, Field Corn Grown for Seed, Sweet Corn, Sweet Corn Grown for Seed	Grasshoppers	28-43 fl.oz. (0.04-0.06 lb. ai. Bifenthrin and 0.39-0.61 lb. ai chlorpyrifos)	MANA 243201 can be used as an early postemergence insect control product, or and for rescue of corn infested with larval corn rootworm. <u>Postemergence Application:</u> Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 15 gpa for ground spray equipment or 2 to 5 gpa for aircraft equipment. Control may be reduced at low spray volumes under high temperature and wind conditions. MANA 24301 may be tank mixed with glyphosate products, such as Roundup® herbicide, when the application is to be made to glyphosate-tolerant corn. See special instructions below to obtain optimal pest control with postemergence use.
	Armyworms spp. Cutworm spp.(1)	28-55 fl.oz (0.04-0.08 lb. ai. Bifenthrin and 0.39-0.78 lb. ai chlorpyrifos)	<u>Chemigation Use Directions</u> MANA 24301 may be applied to corn via sprinkler irrigation

	<p>European and Southwestern Corn borer(3) 1st generation 2nd generation</p>	<p>32-69 fl.oz (0.05-0.1lb. ai. Bifenthrin and 0.45-0.79 lb. ai chlorpyrifos) 55-69 fl.oz (0.08-0.1lb. ai. Bifenthrin and 0.78-0.79 lb. ai chlorpyrifos)</p>	<p>systems to control corn rootworm. Unless otherwise indicated in specific use directions, the application rates for chemigation are the same as those specified for broadcast application. Time application to coincide with the appearance of the second instar larvae. Apply with enough water to wet the root zone to the depth control needed. If soils are wet, allow enough soil drying to occur such that an application using a minimum amount of water will not produce surface runoff. See Chemigation application section.</p> <p><u>Tank Mixing:</u> MANA 24301 may also be applied in tank mixtures with paraquat or glyphosate and/or liquid fertilizer solutions when the crop is not emerged. See Mixing Directions section for tank mixing instructions. Read and carefully follow the most restrictive statements on labeling for each product used in combination with MANA 24301.</p>
	<p>Aphids Armyworms Chinch bugs(1) Cutworms(3) Flea beetle adults(1) Southern corn leaf beetle Webworms(4) Western bean cutworm</p>	<p>32-69 fl.oz (0.05-0.1lb. ai. Bifenthrin and 0.0.45 -0.79 lb. ai chlorpyrifos)</p>	<p>Improper use of liquid fertilizers applied post emergence to corn can cause severe corn burning. Refer to local recommendations around timing, fertilizer type and application method when combining with MANA 24301.</p> <p><u>Numbers in parentheses (#) refer to the pest specific use directions:</u></p> <p>(1) Billbug, chinch bug, or flea beetle: For best control, apply by ground in a minimum spray volume of 20 to 40 gpa at 40 psi. If corn is less than 6 inches tall, apply in a 9- to 12-inch wide band over the row. For corn more than 6 inches tall, apply using drop nozzles directed to the base of the plant. Do not reduce the application rate for banded or directed applications. Concentrate the full labeled dosage rate in the treated zone. When chinch bugs continue to immigrate to corn over a prolonged period or under extreme pest pressure, a second application may be needed.</p>
	<p>Corn earworm Southwestern corn borer(5)</p>	<p>55-69 fl.oz (0.08-0.1lb. ai. Bifenthrin and 0.78-0.79 lb. ai chlorpyrifos)</p>	<p>(2) Cutworms: It is preferable to apply MANA 24301 when soil is moist and worms are active on or near the soil surface. If ground is dry, cloddy, or crusted at time of treatment, worms may be protected from the spray and effectiveness will be reduced. Shallow incorporation using a rotary hoe or other suitable equipment immediately before or soon after treatment</p>

	<p>Corn Rootworm larvae Northern, Southern, Western (6) billbugs Common stalk borer(1) Lesser stalk borer(7), brown marmorated stinkbug</p>	<p>69 fl.oz (0.1 lb. ai. Bifenthrin and 0.79 lb. ai chlorpyrifos)</p>	<p>may improve control. A second application may be required if damage or density levels exceed economic thresholds established for your area.</p> <p>(3) European corn borer: For control, use 1.5 to 2 pints per acre when application is made with power-operated ground or aerial equipment, or 1 to 2 pints per acre when application is made through a sprinkler irrigation system. University research indicates that achieving greater than 50% control of 1st-generation European borer with a single liquid insecticide treatment is highly dependent upon timing, insecticide placement, and weather conditions.</p> <p>(4) Webworm: For control, shallow incorporation using a rotary hoe or other suitable equipment immediately before or soon after treatment is necessary.</p> <p>(5) Southwestern corn borer: A second application may be applied 21 days later if needed due to infestation.</p> <p>(6) Corn rootworm larvae: For postemergence control, apply at cultivation. Direct the spray to both sides of the row at the base of the plants just ahead of the cultivator shovels. Cover the insecticide with soil around the brace roots. A cultivation application of MANA 24301 may be made in addition to an at-planting application of Chlorpyrifos 15G.</p> <p>Time application to coincide with the appearance of the second instar larvae rootworm larvae. Rainfall or irrigation is needed to with enough water to wet the root zone to the depth control needed. If soils are wet, allow enough soil drying to occur such that an application using a minimum amount of water will not produce surface runoff.</p> <p>(7) Best control of common stalk borer with MANA 24301, treat with a burndown herbicide about 2 weeks (with Glyphosate) or after burndown with Parazone (paraquat) herbicide about 3 to 5 days after herbicide application when weeds have been desiccated</p>
<p>Use Restrictions:</p> <ul style="list-style-type: none"> • Use of ultra low volume (ULV) application on corn is prohibited. • Do not make aerial or ground applications to corn if heavy rainfall is imminent. • Use of MANA 24301 on corn is prohibited in all coastal counties. <p>For field corn-</p> <ul style="list-style-type: none"> • Do not apply more than 213 fl. ounces of this product (0.3 lb bifenthrin and 3 lb ai chlorpyrifos). If subsequent applications of bifenthrin are made, the total from this product and any other products containing bifenthrin must not exceed 0.3 lb ai per A per season. If subsequent applications of chlorpyrifos are made, the total from this product and any other products containing chlorpyrifos must not exceed 3 lb ai per A per season. • Preharvest Interval: Do not apply within 21 days before harvest of grain, ears, forage or fodder. • Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application. • Do not make more than three applications of any product containing chlorpyrifos per season. • Do not make a second application of MANA 24301 or other product containing chlorpyrifos within 10 days of the first application. • Do not apply in tank mixes with Steadfast or Lightning herbicides. • Do not aeriaily apply this product in Mississippi. <p>For Sweet corn</p> <ul style="list-style-type: none"> • Do not apply more than 0.2 lb. bifenthrin active ingredient (142 fl. oz MANA 24301) per acre per season. 			

Cotton

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION
Cotton	European corn borer, Soybean (banded) thrips, tobacco thrips	14.5 – 71 fl. oz (0.02-0.1 lb. ai. Bifenthrin and 0.2-1.0 lb. ai chlorpyrifos)	<p>Apply as a broadcast foliar spray using aircraft or ground spray equipment. Use a higher listed rate in the rate range when there is increased pest pressure. Use sufficient spray volume to ensure thorough coverage of treated plants, but no less than 10 GPA for ground spray equipment or 2 GPA for aircraft equipment. Increase spray volume when foliage is dense and/or pest population is high and/or under high temperature and wind conditions. Treat when field counts indicate damaging insect populations are developing or present.</p> <p>Chemigation: This product may be applied through sprinkler irrigation systems at instructed broadcast application rates to control listed foliar pests. See Chemigation section for application instructions.</p> <p>Proper application methods are necessary to ensure thorough spray coverage and correct rate, and minimize off-target drift. Follow Application Directions for ground and aerial application and Spray Drift Management instructions in Product Information section of this label.</p> <p>To Control Boll Weevil: Apply this product at an interval of 3 to 4 days until pest numbers are reduced to acceptable levels.</p> <p>To Control Aphids: Apply when pests first appear. Repeat as necessary to maintain control. Higher listed rates will be required once a damaging threshold is established.</p>
	boll weevil, cabbage looper, cotton aphid, cotton fleahopper, cotton leaf perforator, cutworms, fall armyworm, grasshoppers, leafhopper, plant bugs, saltmarsh caterpillar, southern garden leafhopper, stink bugs, tobacco budworm, whitefly, yellow striped armyworm, brown marmorated stinkbug	29 – 71 fl. oz. (0.04-0.1 lb. ai. Bifenthrin and 0.41-1.0 lb. ai chlorpyrifos)	
	Beet armyworm, cotton bollworm, lygus Spp., pink bollworm,	42 -71 fl. oz. (0.06-0.1 lb. ai. Bifenthrin and 0.59 -1.0 lb. ai chlorpyrifos)	
	<p>Use Restrictions:</p> <ul style="list-style-type: none"> • Do not make more than 3 applications of MANA 24301 or other products containing chlorpyrifos per crop season. • Max single application rate is 71 fl. oz of MANA 24301 and max yearly rate is 213 fl.oz. • Do not make a second application of this product or other product containing chlorpyrifos within 10 days of the first application • Do not allow meat or dairy animals to graze in treated areas. Do not feed gin trash or treated forage to meat or dairy animals. • Do not make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include Ambush[®], Ammo[®], Asana[®] XL, Baythroid[®], Capture[®], Danitol[®], Karate[®], Mustang[®], and Scout X- TRA[®]. • Do not apply within 14 days of harvest. • Not for use in Mississippi 		

Soybeans

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn

CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION
Soybeans	Corn Rootworm larvae (Northern, Southern, Western) Lesser Corn Stalk borer	55-69 fl.oz. (3.2-4.0 fl. oz. per 1000 linear ft.) (0.08-0.1 lb. ai. Bifenthrin and 0.78-0.79 lb. ai chlorpyrifos)	When applied as directed, MANA 24301 will provide control of the following pests listed in the table below. Apply as an at-plant 5 to 7 inch band over the row on the soil surface, a 5 to 7 inch band over the open furrow (T-band) or Postplant. Apply broadcast over the soil surface for control of Army cutworm, Cutworm spp., Lesser Stalkborer, True armyworm, or Armyworm spp.
	Grape colapsis Grubs Root maggot Seedcorn maggot Wireworm	28-55 fl.oz. (1.6-3.2 fl. oz. per 1000 linear ft.) (0.04-0.08 lb. ai. Bifenthrin and 0.39-0.78 lb. ai chlorpyrifos)	
	Army cutworm Armyworm spp. Cutworm spp. True armyworm, brown marmorated stinkbug	28-55 fl.oz. (1.6-3.2 fl. oz. per 1000 linear ft.) (0.04-0.08 lb. ai. Bifenthrin and 0.39-0.78 lb. ai chlorpyrifos)	
Use Restrictions: <ul style="list-style-type: none"> Do not apply more than 0.1 pound active ingredient bifenthrin (71 fl. oz MANA 24301) per acre per season as an at-plant application. Do not apply more than 0.2 pound active ingredient bifenthrin (142 fl. oz MANA 24301) per acre per season including at-plant plus foliar applications of other bifenthrin products (such as Fanfare 2EC). Do not apply as an infurrow treatment Do not apply within 28 days of harvest. Do not apply more than a total of 3 lb a.i. chlorpyrifos per acre per season from any source. This product contains 1 lb chlorpyrifos per 71 fl. oz. Do not make a second application of MANA 24301 or another product containing chlorpyrifos for 10 days after the first application. 			

Tobacco (Pre-plant soil application)

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.			
CROPS	PESTS	PRODUCT RATE PER ACRE	APPLICATION INFORMATION
Tobacco	Armyworms, Cutworms, Tobacco flea beetle (larvae), Mole crickets, Stalk borers, Wireworms, White grubs	45 – 71 fl. oz. (0.06-0.1 lb. ai. Bifenthrin and 0.63 -1.0 lb. ai chlorpyrifos)	Apply as a preplant broadcast spray to reduce the feeding damage caused by listed pests. Apply 24 to 48 hours before bedding and transplanting using a spray volume of 10 GPA or more. Incorporate immediately after application to a depth of 4 inches using suitable incorporation equipment.

	Aphids, Armyworm, Flea beetle (adults), Chinch bugs, Stink bugs, Japanese beetles, Grasshoppers, Cutworms, Tarnished plant bugs, Green bugs, Thrips, Whiteflies	28 – 71 fl. oz. (0.04-0.1 lb. ai. Bifenthrin and 0.39 -1.0 lb. ai chlorpyrifos)	Before broadcast application of this product onto existing beds, knock down beds to final shape for transplanting. Use PTO-driven implements that will incorporate this product to a depth of 4 inches.
	Spider mites, Lygus spp.	71 fl. oz. (0.1 lb. ai. Bifenthrin and 1.0 lb. ai chlorpyrifos)	
Use Restrictions: <ul style="list-style-type: none"> Do not make more than 1 application of this product or other product containing chlorpyrifos per season. Maximum single application rate is 71 fl.oz. Maximum yearly application rate is 71 fl.oz. 			

ROTATIONAL CROPS

Crops for which both bifenthrin and chlorpyrifos tolerances exist, may be rotated at any time. All other crops may be rotated 30 days following the final application.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE:

Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of reach of children, preferably in a locked storage area.

Do not store above 100°F for extended periods of time. Storage below 20°F can result in formation of crystals. If product crystallizes, store at 50°F to 70°F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

PESTICIDE DISPOSAL:

Open dumping is prohibited. Pesticide wastes are toxic. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. 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 HANDLING:

NONREFILLABLE CONTAINERS:

Rigid, Nonrefillable containers small enough to shake (i.e. with capacities equal to less than five gallons).

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 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. Then offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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 a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

Rigid, Nonrefillable containers that are too large to shake (i.e. with capacities greater than 5 gallons or 50 lbs).

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. Offer for recycling or reconditioning if available, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

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 a mix tank or collect rinsate at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Once container is rinsed, offer for recycling if available, or puncture and dispose of in a sanitary landfill.

REFILLABLE CONTAINERS:

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.

REFILLING OR RETURNING CONTAINERS:

If refilling or returning container is planned, end users are not authorized to remove tamper evident cables, one way valves or clean container.

RECYCLE OR DISPOSAL OF CONTAINERS:

End users are authorized to remove tamper evident cable as required to remove the product from the container unless the container is equipped with one way valves and refilling or returning is planned. Instructions for container rinsing and either recycling or disposal are as follows:

Bottom Discharge IBC (e.g. Schuetz Caged IBC or Snyder Square Stackable).

Pressure rinsing 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 pressure rinse the container before final disposal, empty the remaining contents from the IBC into application equipment or mix tank. Raise the bottom of the IBC by 1.5 inches on the side which is opposite of the bottom discharge valve to promote more complete product removal. Completely pump or drain rinsate into application equipment or rinsate collection system while pressure rinsing. Continue pressure rinsing for 2 minutes or until rinsate becomes clear. Replace the lid and close bottom valve.

Top Discharge IBC, Drums, Kegs (e.g. Snyder 120 Next Gen, Bonar B120, Drums and Kegs).

Triple rinsing 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 triple rinse the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Rinse all interior surfaces. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES and LIMITATIONS OF LIABILITY**.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

Product Name is a registered trademark of Makhteshim Agan of North America, Inc.

(Notif 6-17-2014)