SPIROMESIFEN	GROUP 23	INSECTICIDE/ACARICIDE

Spear

ACTIVE INGREDIENT:	**WT. BY %**
Spiromesifen: 2-oxo-3-(2,4,6-trimethylphenyl)-1-oxaspiro[4.4]non-3-en-4-yl 3,3-dimethylbutanoate*	45.2%
OTHER INGREDIENTS:	54.8%
TOTAL:	**100.0%**

*Contains 4 pounds of spiromesifen per U.S. gallon (480 grams per liter).

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

See label booklet for complete First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

Manufactured For:

Sharda USA LLC (S U)

7217 Lancaster Pike, Suite A
Hockessin, Delaware 19707

EPA Reg. No. 83529-259

EPA Est. No. CS 70815-GA-001; MA 83411-MN-001; MC 89332-GA-001; SC 39578-TX-001; TX 07401-TX-001

The EPA Establishment Number is identified by the circled letters above that match the first two letters in the batch number.

Net Contents: 265 Gals.

FIRST AID	
IF INHALED:	• Move the 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 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 do so by a poison control center or doctor. • **DO NOT** give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call your poison control center at **1-800-222-1222**.	
NOTE TO PHYSICIAN	
No specific antidote is known. Treat symptomatically.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. 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)

Mixers, loaders and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, viton ≥ 14 mils
- Shoes plus socks

All handlers must wear:

- Long-sleeved shirt,
- long pants,
- shoes and socks.

USER SAFETY REQUIREMENTS

Follow the 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 CONTROLS STATEMENT

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (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.

In addition to the PPE for all handlers, mixer/loaders supporting aerial applications to corn; cotton; potatoes; and tuberous and corm vegetables must use closed mixing/loading systems that meet the requirements listed in the WPS for agricultural pesticides [40 CFR 170.607(d)(2)(i) &(ii)] for dermal protection.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. **DO NOT** contaminate surface water through spray drift. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. **DO NOT** contaminate water when cleaning equipment or disposing of equipment washwater.

Surface Water Advisory

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of spiromesifen from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

Groundwater Advisory

Degradates of spiromesifen have properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

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.

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 same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticides.

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 intervals. 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 is listed in the **DIRECTIONS FOR USE** associated with the crop.

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, are:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, or viton ≥ 14 mils
- Shoes and socks

PRODUCT INFORMATION

Spear is a Suspension Concentrate formulation. The active ingredient contained in **Spear** is active by contact on all mite development stages. However, mite juvenile stages are often more susceptible than adults. **Spear** is also effective against whitefly nymphs, plus it has a significant effect on the otherwise difficult to control pupal stage. Make applications to coincide with early threshold level in developing mite population. **Spear** can be applied by air, ground equipment, or through chemigation. However, thorough coverage of all plant parts is required for optimum performance. Evaluate the performance of **Spear** 4 - 10 days following application.

RESISTANCE MANAGEMENT

For resistance management, **Spear** contains a Group 23, lipid biosynthesis inhibitor (LBI) insecticide/acaricide. Any insect/mite population may contain individuals naturally resistant to **Spear** and other Group 23 insecticides/acaricide. The resistant individuals may dominate the insect/mite population if this group of insecticides/acaricides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of **Spear** or other Group 23 insecticides/acaricides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. **DO NOT** rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues for the targeted pests between the individual components of a mixture.
- In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides/acaricides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect/mite resistance management benefits of an insecticide/acaricide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides/acaricides with unequal periods of residual insecticide/acaricide activity may offer an insect/acaricide resistance management benefit only for the period where both insecticides/acaricides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

- For further information or to report suspected resistance contact your local Sharda USA representative at 1-(910) 859-3090 Monday through Friday, 9AM to 4 PM EST, or www.shardausa.com.

ENDANGERED SPECIES

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal law.

POLLINATOR PROTECTION STATEMENTS

Following best management practices can help reduce risk to terrestrial pollinators. Examples of best management practices include checking to confirm hive locations before spraying and applying pesticides at twilight and at night when pollinators are less likely foraging. For additional resources on pollinator best management practices, visit https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators.

Pollinator protection plans are developed by states/tribes to promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees to pesticides. Visit available state/tribal plans for additional information on how to protect pollinators.

How to Report Bee Kills

It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at beekill@epa.gov. To contact your state lead agency, see the current listing of state pesticide regulatory agencies at the National Pesticide Information Center's website: http://npic.orst.edu/reg/state_agencies.html.

APPLICATION INSTRUCTIONS

For all insects, timing of application should be based on careful scouting and local thresholds.

Foliar Spray Applications

Foliar applications may be made using properly calibrated ground sprayers, fixed- or rotary-winged aircraft or through properly designed, sprinkler-type, chemigation equipment (See **CHEMIGATION SYSTEMS** section). Thorough and uniform coverage of plants, with direct contact of the spray mixture to the target pests, is required for satisfactory control.

DO NOT apply where thorough coverage of plant is not possible. Applications made with less than thorough coverage may result in slower activity and/or less overall control from a single application than an application made with higher gallonages.

Ground applications must be made in a minimum of 10 gallons/A.

Aerial applications must be made in a minimum of 5 gallons/A. Aerial applications made to dense canopies may not provide sufficient coverage of lower leaves to provide pest control. Higher labeled rates of **Spear** may be necessary for aerial applications. **DO NOT** apply directly to bodies of water. Time applications to allow sprays to dry prior to rain or sprinkler irrigations.

Chemigation applications (See **CHEMIGATION SYSTEMS** section) must be made as concentrated as possible. For best results apply at 100% input/travel speed, for center pivots or 0.10 inch (2,716 gallons) up to 0.15 inch (4,073 gallons) of water/A, for other systems. Higher labeled rates of **Spear** may be necessary for chemigation applications.

For low growing berries in Crop Group 13-07G, carrots, leafy green vegetables in Crop Group 4A, fruiting vegetables in Crop Group 8, cucurbits, and leafy brassica greens, applications using mechanically-pressurized handguns are prohibited.

Irrigation Timing

If irrigation is used, conduct irrigations efficiently to prevent excessive loss of irrigation waters through runoff. Time the applications to allow sprays to dry prior to rain or sprinkler irrigations. Allow at least 24 hours between application of product and any irrigation that results in surface runoff into lakes, reservoirs, rivers, permanent streams, marshes, potholes, vernal pools, natural ponds, estuaries, or commercial fish farm ponds.

CHEMIGATION SYSTEMS

Spear may be applied through irrigation systems (chemigation) only on those crops listed under the **CROP USE DIRECTIONS** section. **DO NOT** allow chemigation to run off field.

Types of Irrigation Systems: Apply **Spear** only through sprinkler, including center pivot, lateral move, side roll, or overhead solid set irrigation systems. **DO NOT** Apply **Spear** through any other type of irrigation system.

DIRECTIONS FOR ALL APPROVED TYPES OF IRRIGATION SYSTEMS

Uniform Water Distribution and System Calibration: The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Chemigation Monitoring: A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Drift: DO NOT apply when wind speed favors drift beyond the area intended for treatment.

Required System Safety Devices: 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. 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 that 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.

Using Water from Public Water Systems: Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regular serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow 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 flow 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. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where 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.

Cleaning the Chemical Injection System: In order to accurately apply pesticides, the chemical injection system must be kept clean; free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

Flushing the Irrigation System: At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

Equipment Area Contamination Prevention

Plug nozzles that are in the immediate area of control panels, chemical supply tanks, pumps and system safety devices to prevent chemical contamination of these areas.

Center-Pivot and Automatic-Move Linear Systems: Inject the specified dosage per acre continuously for one complete revolution or move of the system. Run the system at maximum speed. **DO NOT** USE END GUNS.

Solid Set and Manually Controlled Linear Systems: Inject during the last 30 to 60 minutes of regular irrigation period or as a separate 30 - 60 minute application not associated with a regular irrigation. **DO NOT** USE END GUNS.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications:

- **DO NOT** release spray at a height greater than 10 feet above the ground or vegetative canopy unless a greater height is required for pilot safety.
- Applicators must select nozzle and pressure that deliver medium or courser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 641 (ASABE S641). If the windspeed is 10 miles per hour or less, applicators must use 1/2 swath displacement upwind at the downwind edge of the field. When the windspeed is between 11 - 15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply when wind speed exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- **DO NOT** apply during temperature inversions.

Airblast Applications:

- Sprays must be directed into the canopy.
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- **DO NOT** apply during temperature inversions.

Ground Boom Applications:

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators must select nozzle and pressure that deliver medium or courser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572).
- **DO NOT** apply when wind speeds exceed 15 mph at the application site.
- **DO NOT** apply during temperature inversions.

Wind Speed Restrictions:

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. **DO NOT** apply when winds are greater than 15 mph or when gusty and windless conditions are present. Risk of exposure to sensitive aquatic areas can be reduced by not making applications when wind direction is toward the aquatic area.

Restrictions During Temperature Inversions:

DO NOT make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain close to the ground and move laterally in a concentrated cloud. 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. 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 mixing.

SPRAY DRIFT ADVISORIES

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

Importance of Droplet Size:

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

Controlling Droplet Size - Ground Boom

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

Controlling Droplet Size - Aircraft

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

BOOM HEIGHT - Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT - Aircraft

Higher release heights increase the potential for spray drift.

SHIELDED SPRAYERS

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

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

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

WIND

Drift potential generally increases with wind speed. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

BOOMLESS GROUND APPLICATIONS:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

HANDHELD TECHNOLOGY APPLICATIONS:

- Take precautions to minimize spray drift.

FOR USE IN CALIFORNIA

Allow growth of a vegetative filter strip within 25 feet (on which the product should not be applied) along lakes, reservoirs, rivers, permanent streams, marshes, potholes, vernal pools, natural ponds, estuaries, or commercial fish farm ponds.

MIXING INSTRUCTIONS

Mix pesticides in areas not prone to runoff such as concrete mixing/loading pads, disked soil in flat terrain or graveled mix pads, or use a suitable method to contain spills and/or rinsate. Properly empty and triple-rinse pesticide containers at time of use as stated in the **STORAGE AND DISPOSAL** section.

Mixing and Loading Requirements

To help prevent potential contamination of groundwater, use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading area and potential surface to groundwater conduits such as field sumps, uncased well heads, sink-holes, or field drains.

COMPATIBILITY

Spear is physically and biologically compatible with many registered pesticides and fertilizers or micronutrients. When considering mixing **Spear** with other pesticides, or other additives, first contact your supplier for advice. For further information, contact your local Sharda Representative. If your supplier and Sharda USA LLC representative have no experience with the combination you are considering, conduct a test to determine physical compatibility. To determine physical compatibility, add the required proportions of each chemical with the same proportion of water, as will be present in the chemical supply tank, into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.

ORDER-OF-MIXING

Spear may be used with other recommended pesticides, fertilizers and micronutrients. The proper mixing procedure for **Spear** alone or in tank mix combinations with other pesticides is:

1. Fill the spray tank 1/4 to 1/3 full with clean water;
2. While recirculating and with the agitator running, add any products in PVA bags (See **NOTE**). Allow time for thorough mixing;
3. Continue to fill spray tank with water until 1/2 full;
4. Add any other wettable powder (WP) or wettable granules (WG) products;
5. Add the required amount of **Spear**, and any other "flowable" (FL or SC) type products;
6. Allow enough time for thorough mixing of each product added to tank;
7. If applicable, add any remaining tank mix components: emulsifiable concentrates (EC), fertilizers and micronutrients.
8. Fill spray tank to desired level and maintain constant agitation to ensure uniformity of spray mixture.

NOTE: DO NOT use PVA packets in a tank mix with products that contain boron or release free chlorine. The resultant reaction of PVA and boron or free chlorine is a plastic that is not soluble in water or solvents.

ROTATIONAL PLANT-BACK INTERVALS*

Crop	Plant-Back Interval
Cotton, Field Corn, Pop Corn, Sweet Corn, Fruiting Vegetables, Leafy Vegetables, Cucurbits, Tuber Vegetables (Potatoes), and Strawberry	Immediately
Alfalfa, Barley, Bulb vegetables (Crop Group 3-07), Oat, Sugarbeets, and Wheat	30 days
All other listed crops	12 months
*Cover Crops for soil building or erosion control may be planted at any time, but **DO NOT** graze or harvest for food or feed.	

CROP USE DIRECTIONS

FIELD CROPS

Apply specified dosage of **Spear** as needed for control. For best results, apply treatment when target pest populations begin to build and before a damaging population becomes established, prior to leaf damage or discoloration. **Spear** is most effective when applications are targeted toward egg and nymphal stages of target pests. **Spear** will not knock down adult whitefly populations. Rate range is provided and is generally dependent on size of the plant and density of the foliage. For optimal control, apply in adequate water for thorough and uniform coverage with ground or aerial application equipment, or by chemigation as indicated below. An adjuvant may be used to improve coverage. If needed, repeat applications as specified within crop - specific use directions. For all crops and use sites **DO NOT** use more than 0.35 lb. spiromesifen per acre per calendar year.

CORN (FIELD, POP, SWEET)

Pests Controlled	Rate Per Application Fl. Oz./Acre
Banks grass mite Twospotted spider mite	2.85 - 8.6

Restrictions:
• Pre-Harvest Interval (PHI):
  • Field Corn: green forage and silage - 5 days; grain or stover - 30 days
  • Popcorn: green forage and silage - 5 days; grain or stover - 30 days
  • Sweet Corn: green forage, silage, and sweet corn for fresh consumption - 5 days; grain or stover - 30 days
• Maximum single application rate: 8.6 fl. oz. per acre (0.27 lb. a.i.)
• Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
• Maximum number of applications per calendar year: 3
• Minimum retreatment interval: 14 days
• Restricted-Entry Interval (REI): **12 hours** following application
• Minimum application volume:
  • Ground: 10 GPA
  • Aerial: 5 GPA
Note: Refer to the **CHEMIGATION SYSTEMS** section of this label.	

COTTON

Pests Controlled	Rate Per Application Fl. Oz./Acre	
	Early Season	Mid-Late Season
Carmine spider mite Desert spider mite Pacific spider mite Strawberry spider mite Twospotted spider mite Whiteflies (including Silverleaf and Sweetpotato)	3.0 - 5.4	4.0 - 5.4

Restrictions:

- Pre-Harvest Interval (PHI): 30 days
- Maximum single application rate: 5.4 fl. oz. per acre (0.168 lb. a.i.)
- Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
- Maximum number of applications per calendar year: 3
- Minimum retreatment interval: 7 days
- Restricted-Entry Interval (REI): **12 hours** following application
- Minimum application volume:
  - Ground: 10 GPA
  - Aerial: 5 GPA
- Early Season: Apply by ground rig when cotton is less than 10 inches tall and thorough coverage of plant canopy can be achieved.
- Mid-Late Season: Apply by air or ground.

VEGETABLE CROPS

Apply specified dosage of **Spear** as needed for control. For best results, apply treatment when target pest populations begin to build and before a damaging population becomes established, prior to leaf damage or discoloration. **Spear** is most effective when applications are targeted toward egg and nymphal stages of target pests. **Spear** will not knock down adult whitefly populations. Rate range is provided and is generally dependent on size of the plant and density of the foliage. For optimal control, apply in adequate water for thorough and uniform coverage with ground or aerial application equipment, or by chemigation as indicated below. An adjuvant may be used to improve coverage. If needed, repeat applications as specified within crop-specific use directions.

CUCURBIT VEGETABLES (Crop Group 9)

Chayote (fruit), Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkin, edible gourd (includes, hyotan, cucuzza, hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bittermelon, Chinese cucumber), muskmelon (includes cantaloupe), pumpkin, summer squash, winter squash (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash), watermelon

Pests Controlled	Rate Per Application Fl. Oz./Acre
Twospotted spider mite Whiteflies (Including Silverleaf, Sweetpotato and Greenhouse)	3.5 - 4.25

Restrictions:

- Pre-Harvest Interval (PHI): 7 days
- Maximum single application rate: 4.25 fl. oz. per acre (0.133 lb. a.i.)
- Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
- Maximum number of applications per calendar year: 3
- Minimum retreatment interval: 7 days
- Restricted-Entry Interval (REI): **12 hours** following application
- Minimum application volume:
  - Ground: 10 GPA
  - Aerial: 5 GPA

FRUITING VEGETABLES (except Cucurbits) (Crop Group 8)

Eggplant, groundcherry *(Physalis* sp.*)*, pepino, pepper (includes: bell pepper, chili pepper, cooking pepper, pimento, sweet pepper), tomatillo, and tomato

Pests Controlled	Rate Per Application Fl. Oz./Acre
Broad mite Potato/Tomato psyllid Tomato russet mite Twospotted spider mite Whiteflies (Including Silverleaf, Sweetpotato and Greenhouse)	3.5 - 4.25

Restrictions:
• Pre-Harvest Interval (PHI): 1 day
• Maximum single application rate: 4.25 fl. oz. per acre (0.133 lb. a.i.)
• Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
• Maximum number of applications per calendar year: 3
• Minimum retreatment interval: 7-days
• Restricted-Entry Interval (REI): **12 hours** following application
• Minimum application volume:
  • Ground: 10 GPA
  • Aerial: 5 GPA	

LEAFY GREENS VEGETABLES (Crop Subgroup 4A)

Amaranth (Chinese spinach), arugula (roquette), chervil, edible-leaved and garland chrysanthemum, corn salad, upland and garden cress, dandelion, dock (sorrel), endive (escarole), head and leaf lettuce, orach, parsley, garden and winter purslane, radicchio (red chicory), spinach, New Zealand and vine spinach

Pests Controlled	Rate Per Application Fl. Oz./Acre
Whiteflies (Including Silverleaf, Sweetpotato and Greenhouse)	3.5 - 4.25

Restrictions:
• Pre-Harvest Interval (PHI): 7 days
• Maximum single application rate: 4.25 fl. oz. per acre (0.133 lb. a.i.)
• Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
• Maximum number of applications per calendar year: 3
• Minimum retreatment interval: 7 days
• Restricted-Entry Interval (REI): **12 hours** following application
• Minimum application volume:
  • Ground: 10 GPA
  • Aerial: 5 GPA	

BRASSICA LEAFY VEGETABLES

Broccoli and Chinese (gai lon) broccoli, Broccoli raab (rapini), Brussels sprouts, cabbage, Chinese (bok choy and napa) cabbage, Chinese mustard (gai choy) cabbage, cauliflower, cavalo broccolo, collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, and rape greens

Pests Controlled	Rate Per Application Fl. Oz./Acre
Whiteflies (Including Silverleaf, Sweetpotato and Greenhouse)	3.5 - 4.25

Restrictions:

- Pre-Harvest Interval (PHI): 7 days
- Leafy Brassica Greens: REI is **12 hours**. **DO NOT** allow workers to harvest until 14 days after application.
- Cauliflower: REI is **12 hours**. **DO NOT** allow workers to perform tying/training or harvest until 14 days after application.
- Maximum single application rate: 4.25 fl. oz. per acre (0.133 lb. a.i.)
- Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
- Maximum number of applications per calendar year: 3
- Minimum retreatment interval: 7 days
- Restricted-Entry Interval (REI): **12 hours** following application
- Minimum application volume:
  - Ground: 10 GPA
  - Aerial: 5 GPA

POTATO and TUBEROUS and CORM VEGETABLES (Crop Subgroup 1C)

Arracacha, arrowroot, artichoke (Chinese, Jerusalem), artichoke (Jerusalem), canna (edible), cassava (bitter, sweet), chayote (root), chufa, dasheen, ginger, leren, potato, sweet potato, tanier, turmeric, yam (bean, true)

Pests Controlled	Rate Per Application Fl. Oz./Acre
Potato/Tomato Psyllid Twospotted spider mite Whiteflies (Including Silverleaf, Sweetpotato and Greenhouse)	4.0 - 8.0

Restrictions:

- Pre-Harvest Interval (PHI): 7 days
- Tuberous and Corm Vegetables (Crop Subgroup 1C): REI is **12 hours**. **DO NOT** allow workers to perform hand-set irrigation activities until 11 days after application.
- Potato: REI is **12 hours**. **DO NOT** allow workers to perform hand-set irrigation activities until 11 days after application.
- Maximum single application rate: 8 fl. oz. per acre (0.25 lb. a.i.)
- Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
- Maximum number of applications per calendar year: 2
- Minimum retreatment interval: 7 days
- Restricted-Entry Interval (REI): **12 hours** following application
- Minimum application volume:
  - Ground: 10 GPA
  - Aerial: 5 GPA

Note: Refer to the **CHEMIGATION SYSTEMS** section of this label.

LOW GROWING BERRY (Crop Subgroup 13-07-G):

Bearberry, Bilberry, Blueberry (lowbush), Cloudberry, Cranberry, Lingonberry, Muntries, Partridgeberry, Strawberry

Pests Controlled	Rate Per Application Fl. Oz./Acre
Twospotted spider mite Whiteflies (Including Silverleaf, Sweetpotato and Greenhouse)	6.0 - 8.0

Restrictions:

- Pre-Harvest Interval (PHI): 3 days
- Maximum **Spear** single application rate: 8 fl. oz. per acre (0.25 lb. a.i.)
- Maximum **Spear** allowed per calendar year: 11.2 fl. oz. per acre (0.35 lb. a.i.)
- Maximum number of applications per calendar year: 1
- Minimum retreatment interval: 7 days
- In California, a maximum of 2 applications is allowed.
- Restricted-Entry Interval (REI): **12 hours** following application
- Minimum application volume: 100 GPA - ground. **DO NOT APPLY BY AERIAL APPLICATION.**

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage and disposal.

PESTICIDE STORAGE: Store this product in a cool, dry place in its original container only. **DO NOT** store this product near fertilizers, seeds, or other pesticides. Store in original container and out of reach of children, preferably in a locked storage area. If this product is spilled, sweep up the spillage and dispose pursuant to the below Pesticide Disposal instructions.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be used 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:

Less Than or Equal to 5 Gallons: Nonrefillable container. **DO NOT** reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration.

Greater Than 5 Gallons: Refillable container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system Repeat this rinsing procedure two more times.

For Bulk and Mini-Bulk Containers: Refillable container. Refill this container with pesticide only. **DO NOT** use 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 person refilling. To clean container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by State and local authorities.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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 must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Sharda USA LLC or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Sharda USA LLC and Seller harmless for any claims relating to such factors.

Sharda USA LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under conditions not reasonably foreseeable to or beyond the control of Seller or Sharda USA LLC and Buyer and User assume the risk of any such use. To the extent consistent with applicable law, SHARDA USA LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, neither Sharda USA LLC nor Seller shall be liable for any incidental, consequential, or special damages resulting from the use or handling of this product. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SHARDA USA LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SHARDA USA LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Sharda USA LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of Sharda USA LLC.

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SPIROMESIFEN	GROUP 23	INSECTICIDE/ACARICIDE

Spear

ACTIVE INGREDIENT:	WT. BY %
Spiromesifen: 2-oxo-3-(2,4,6-trimethylphenyl)-1-oxaspiro[4.4]non-3-en-4-yl 3,3-dimethylbutanoate*	45.2%
OTHER INGREDIENTS:	54.8%
TOTAL:	100.0%

*Contains 4 pounds of spiromesifen per U.S. gallon (480 grams per liter).

KEEP OUT OF REACH OF CHILDREN

CAUTION

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

See label booklet for additional Precautionary Statements and Directions For Use.

FIRST AID	
IF INHALED:	• Move the 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 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 do so by a poison control center or doctor. • **DO NOT** give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call your poison control center at **1-800-222-1222**.	
NOTE TO PHYSICIAN	
No specific antidote is known. Treat symptomatically.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. 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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates. **DO NOT** contaminate surface water through spray drift. **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. **DO NOT** contaminate water when cleaning equipment or disposing of equipment washwater. **Surface Water Advisory** - This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of spiromesifen from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff. **Groundwater Advisory** - Degradates of spiromesifen have properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

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. **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 same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticides.

STORAGE AND DISPOSAL

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CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

Manufactured For: Sharda USA LLC, 7217 Lancaster Pike, Suite A, Hockessin, Delaware 19707

EPA Reg. No. 83529-259

EPA Est. No. CS 70815-GA-001; MA 83411-MN-001; MC 89332-GA-001; SC 39578-TX-001; TX 07401-TX-001

The EPA Establishment Number is identified by the circled letters above that match the first two letters in the batch number.

Net Contents: 265 Gals.

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