



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505T)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

83529-188

Date of Issuance:

4/20/23

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Sharda Spiromesifen 22.86% SC

Name and Address of Registrant (include ZIP Code):

Wagner Regulatory Associates, Inc.  
P.O. Box 640  
7217 Lancaster Pike, Suite A  
Hockessin, DE 19707

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

*Continues page 2*

Signature of Approving Official:

Melissa Bridges, Acting Product Manager 07  
Invertebrate and Vertebrate Branch 3  
Registration Division

Date:

4/20/23

Office of Pesticide Programs	
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EPA Form 8570-6

2. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 83529-188.”
3. Submit one copy of the final printed label for the record before you release the product for shipment.

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

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

The record for this product currently contains the following CSF(s):

- Basic CSF dated September 22, 2021

If you have any questions, please contact Joseph Belsky at 202-566-2495 or at [belsky.joseph@epa.gov](mailto:belsky.joseph@epa.gov).

Enclosure

[MASTER LABEL]

SPIROMESIFEN	GROUP	<b>23</b>	INSECTICIDE/MITICIDE
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# Sharda Spiromesifen 22.86% SC

## ABN: Sepoy, Samara

<b>ACTIVE INGREDIENT:</b>	<b>WT. BY %</b>
Spiromesifen: 2-oxo-3-(2,4,6-trimethylphenyl)-1-oxaspiro[4.4]non-3-en-4-yl 3,3-dimethylbutanoate .....	22.86%
<b>OTHER INGREDIENTS:</b> .....	77.14%
<b>TOTAL:</b> .....	<b>100.0%</b>

Contains 2.05 pounds of spiromesifen per U.S. gallon (246 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.)

FIRST AID	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• <b>DO NOT</b> induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency medical treatment, you may call poison control center at <b>1-800-222-1222</b> .	
NOTE TO PHYSICIAN	
No specific antidote is known. Treat symptomatically.	

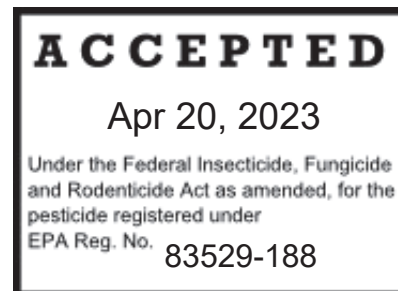
[Optional referral statements when booklets and container labels are used:]  
[See label booklet for [complete] [additional] [First Aid,] [Precautionary Statements], [Directions For Use], and [Storage and Disposal].]

EPA Reg. No. 83529-XXX

EPA Est. No. XXXXX-XX-XXX



Net Contents: \_\_\_\_\_ Gals. [L.]



## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin, 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)

##### Mixers, loaders, and all handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, or Viton®  $\geq 14$  mils.
- Shoes plus socks

##### Applicators must wear:

- Long-sleeved shirt and long pants
- shoes plus socks

##### In addition the following handlers must also wear chemical-resistant gloves:

- Mixer/Loaders (M/Ls) supporting the application of spiromesifen via aerial equipment to cucurbits, fruiting vegetables, leafy greens (Brassica spp. and others), and low growing berries
- M/Ls supporting application via chemigation to field crops
- M/Ls supporting application via ground boom to corn; cotton; potato; and tuberous and corm vegetables
- Applicators using ground boom and airblast equipment to treat ornamentals, vegetables, trees, and container stock in nurseries.

See Engineering Controls for additional requirements.

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.

#### ENGINEERING CONTROLS

In addition to the PPE for all handlers, mixer/loaders supporting aerial applications to [registrants edit list as appropriate: corn; cotton; potato; 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.

Removable chemical extraction probes (also known as "stingers") used in suction/extraction systems must be rinsed within the pesticide container prior to removal.

#### USER SAFETY RECOMMENDATIONS

##### Users should:

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

#### 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 wash water.

##### 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 any manner inconsistent with its labeling. Read entire label before using this product.

This product can only be used in accordance with the Directions for Use on this label. **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 pesticide regulations.

#### 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 workers to enter 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, is:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves made of barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, or Viton®  $\geq 14$  mils.
- Shoes plus socks

#### PRODUCT INFORMATION

**Sharda Spiromesifen 22.86% SC** is a suspension concentrate formulation. The active ingredient contained in **Sharda Spiromesifen 22.86% SC** is active by contact on all mite development stages. However, mite juvenile stages are often more susceptible than adults. **Sharda Spiromesifen 22.86% SC** is also highly 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. **Sharda Spiromesifen 22.86% SC** 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 **Sharda Spiromesifen 22.86% SC** no sooner than 4 - 10 days following application.

#### 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

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](mailto: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](http://npic.orst.edu/reg/state_agencies.html).

#### RESISTANCE MANAGEMENT

For resistance management, **Sharda Spiromesifen 22.86% SC** contains Spiromesifen and is classified in the Tetric and Tetramic acid derivatives chemical class as a Lipid Biosynthesis Inhibitor (LBI), Group 23 insecticide, Inhibitors of acetyl CoA carboxylase.

Any insect population may contain individuals naturally resistant to **Sharda Spiromesifen 22.86% SC** and other Group 23 insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies must be followed.

To delay insecticide resistance, take the following steps:

- Rotate the use of **Sharda Spiromesifen 22.86% SC** or other Group 23 insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides 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 selected for use in mixtures must 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 resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides 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 Sharda USA LLC or representative.

#### MANDATORY SPRAY DRIFT MANAGEMENT

##### **Aerial Applications:**

- **DO NOT** release spray at a height greater than 10 feet above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- Applicators must select nozzle and pressure that deliver medium or coarser 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 ½ 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 speeds 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 coarser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572).
- **DO NOT** apply when wind speeds exceed 15 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

#### SPRAY DRIFT ADVISORIES

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

##### **IMPORTANCE OF DROPLET SIZE**

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

##### **Controlling Droplet Size – Ground Boom**

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

**Controlling Droplet Size – Aircraft**

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

**BOOM HEIGHT – Ground Boom**

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom must 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. Avoid applications during temperature inversions.

**WIND**

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. 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 ft. (on which the product must not be applied) along lakes, reservoirs, rivers, permanent streams, marshes, potholes, vernal pools, natural ponds, estuaries, or commercial fish farm ponds.

**APPLICATION INSTRUCTIONS**

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

For low growing berries in Crop Group 13-07G, 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.

**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 (refer to the below **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 per acre.

Aerial applications must be made in a minimum of 5 gals. per acre. Aerial applications made to dense canopies may not provide sufficient coverage of lower leaves to provide pest control. Higher labeled rates of **Sharda Spiromesifen 22.86% SC** 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 (refer to the below **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 gals.) up to 0.15 inch (4,073 gals.) of water per acre, for other systems. Higher labeled rates of **Sharda Spiromesifen 22.86% SC** may be necessary for chemigation applications.

**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

**Sharda Spiromesifen 22.86% SC** may be applied through irrigation systems (chemigation) only on those crops listed under the **CROP USE DIRECTIONS**. **DO NOT** allow chemigation to run off field.

**Types of Irrigation Systems:** Apply **Sharda Spiromesifen 22.86% SC** only through sprinkler, including center pivot, lateral move, side roll, or overhead solid set irrigation systems. **DO NOT** apply **Sharda Spiromesifen 22.86% SC** 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, 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 must 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. **DO NOT USE END GUNS**. Run the system at maximum speed.



**Solid Set and Manually Controlled Linear Systems:** Inject during the last 30 - 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.

### MIXING PROCEDURES

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

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.

### Mixing and Loading Requirements

To help prevent potential contamination of groundwater, use 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 ft. between mixing and loading area and potential surface to groundwater conduits such as field sumps, uncased well heads, sink-holes, or field drains.

**Compatibility - Sharda Spiromesifen 22.86% SC** is physically and biologically compatible with many registered pesticides and fertilizers or micronutrients. When considering mixing **Sharda Spiromesifen 22.86% SC** with other pesticides, or other additives, first contact your supplier for advice. For further information, contact your local Sharda USA LLC 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.

**Tank Mixing Sequence - Sharda Spiromesifen 22.86% SC** may be used with other recommended pesticides, fertilizers, and micronutrients. The proper mixing procedure for **Sharda Spiromesifen 22.86% SC** alone or in tank mix combinations with other pesticides is:

1. Fill the spray tank  $\frac{1}{4}$  -  $\frac{1}{2}$  full with clean water.
2. While recirculating and with the agitator running, add any products in PVA bags (see below **Note**). Allow time for thorough mixing.
3. Continue to fill spray tank with water until half full.
4. Add any other wettable powder (WP) or wettable granules (WG) products.
5. Add the required amount of **Sharda Spiromesifen 22.86% SC**, 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 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

For all crops, apply specific dosage of **Sharda Spiromesifen 22.86% SC** as needed for control. Complete coverage of the foliage is necessary for optimal control. An adjuvant may be used to improve coverage and control. For best results apply when whitefly or mite populations begin to build and before a damaging population becomes established. **Sharda Spiromesifen 22.86% SC** is effective against the egg and nymphal stages of whiteflies and mites, therefore, apply at these stages. **Sharda Spiromesifen 22.86% SC** 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. Apply when colonies first appear and prior to leaf damage or discoloration. Apply in adequate water for uniform coverage with ground or aerial application equipment, or by chemigation as indicated below. If needed, repeat applications as specified within crop - specific use directions.

#### CORN (FIELD, POP, SWEET)

Pests Controlled	Rate Per Application Fl Oz. per Acre
Banks Grass Mite Two-Spotted Spider Mite	5.7 – 16

**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 **Sharda Spiromesifen 22.86% SC** allowed per 14-day interval: 16 fl. oz. per acre (0.25 lb. a.i.).
- **DO NOT** use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products
- Maximum number of applications per crop season: 2
- 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. per Acre	
	Early Season	Mid-Late Season
Carmine Spider Mite Desert Spider Mite Pacific Spider Mite Strawberry Spider Mite Two-Spotted Spider Mite Whiteflies (including Silverleaf and Sweet Potato)	6 – 16	8 – 16

**Restrictions:**

- Pre-Harvest Interval (PHI): 30 days
- Maximum **Sharda Spiromesifen 22.86% SC** allowed per 7-day interval: 10.25 fl. oz. (0.16 lb. a.i.) per acre.
- **DO NOT** use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products.
- Maximum number of applications per calendar year: 2
- 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**

For all crops, apply specific dosage of **Sharda Spiromesifen 22.86% SC** as needed for control. Complete coverage of the foliage is necessary for optimal control. An adjuvant may be used to improve coverage and control. For best results apply when whitefly or mite populations begin to build and before a damaging population becomes established. **Sharda Spiromesifen 22.86% SC** is effective against the egg and nymphal stages of whiteflies and mites, therefore apply at these stages. **Sharda Spiromesifen 22.86% SC** 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. Apply when colonies first appear and prior to leaf damage or discoloration. Apply in adequate water for uniform coverage with ground or aerial application equipment, or by chemigation as indicated below. If needed, repeat applications at 7- to 10-day intervals.

**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), and watermelon

Pests Controlled	Rate Per Application Fl Oz. per Acre
Two-Spotted Spider Mite Whiteflies (Including Silverleaf, Sweet Potato, and Greenhouse)	7 – 8.5

**Restrictions:**

- Pre-Harvest Interval (PHI): 7 days
- Maximum **Sharda Spiromesifen 22.86% SC** allowed per 7-day interval: 8.5 fl. oz. per acre (0.14 lb. a.i.)
- **DO NOT** use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products
- Maximum number of applications per calendar year: 3
- Minimum application volume:
  - Ground: 10 GPA
  - Aerial: 5 GPA
- **DO NOT** use mechanically-pressurized handguns.

**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. per Acre
Broad Mite Potato/Tomato Psyllid Tomato Russet Mite Two-Spotted Spider Mite Whiteflies (Including Silverleaf, Sweet Potato, and Greenhouse)	7 – 8.5
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Pre-Harvest Interval (PHI): 1 day</li> <li>Maximum <b>Sharda Spiromesifen 22.86% SC</b> allowed per 7-day interval: 8.5 fl. oz. per acre (0.13 lb. a.i.)</li> <li><b>DO NOT</b> use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products</li> <li>Maximum number of applications per calendar year: 3</li> <li>Minimum application volume: <ul style="list-style-type: none"> <li>Ground: 10 GPA</li> <li>Aerial: 5 GPA</li> </ul> </li> <li><b>DO NOT</b> use mechanically-pressurized handguns.</li> </ul>	

**LEAFY GREENS VEGETABLES (Crop Subgroup 4A)**

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

Pests Controlled	Rate Per Application Fl Oz. per Acre
Whiteflies (Including Silverleaf, Sweet Potato, and Greenhouse)	7 – 8.5
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Pre-Harvest Interval (PHI): 7 days</li> <li>Maximum <b>Sharda Spiromesifen 22.86% SC</b> allowed per 7-day interval: 8.5 fl. oz. per acre (0.13 lb. a.i.)</li> <li><b>DO NOT</b> use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products</li> <li>Maximum number of applications per crop calendar year: 3</li> <li>Minimum application volume: <ul style="list-style-type: none"> <li>Ground: 10 GPA</li> <li>Aerial: 5 GPA</li> </ul> </li> </ul>	

**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

[\*Not registered for use in California]

Pests Controlled	Rate Per Application Fl Oz. per Acre
Whiteflies (Including Silverleaf, Sweet Potato, and Greenhouse)	7 – 8.5
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Pre-Harvest Interval (PHI): 7 days</li> <li>Maximum <b>Sharda Spiromesifen 22.86% SC</b> allowed per 7-day interval: 8.5 fl. oz. per acre (0.13 lb. a.i.)</li> <li><b>DO NOT</b> use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products</li> <li>Maximum number of applications per calendar year: 3</li> <li>Minimum application volume: <ul style="list-style-type: none"> <li>Ground: 10 GPA</li> <li>Aerial: 5 GPA</li> </ul> </li> <li>REI is 12 hours. <b>DO NOT</b> allow workers to harvest until 14 days after application.</li> <li><b>DO NOT</b> use mechanically-pressurized handguns.</li> </ul>	

**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, taniar, turmeric, and yam (bean, true)

Pests Controlled	Rate Per Application Fl Oz. per Acre
Potato/Tomato Psyllid Two-Spotted Spider Mite Whiteflies (Including Silverleaf, Sweet Potato, and Greenhouse)	8 – 16
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Pre-Harvest Interval (PHI): 7 days</li> </ul>	

- Maximum **Sharda Spiromesifen 22.86% SC** allowed per 7-day interval: 16 fl. oz. per acre (0.25 lb. a.i.)
- **DO NOT** use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products.
- Maximum number of applications per calendar year: 2
- Minimum application volume:
  - Ground: 10 GPA
  - Aerial: 5 GPA
- REI is 12 hours. **DO NOT** allow workers to perform hand-set irrigation activities until 11 days after application.
- **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, and strawberry

Pests Controlled	Rate Per Application Fl Oz. per Acre
Two-Spotted Spider Mite Whiteflies (Including Silverleaf, Sweet Potato, and Greenhouse)	12 – 16

**Restrictions:**

- Pre-Harvest Interval (PHI): 3 days
- Maximum **Sharda Spiromesifen 22.86% SC** allowed per 7-day interval: 16 fl. oz. per acre (0.25 lb. a.i.)
- **DO NOT** use more than 0.35 lbs a.i. per acre per year of all spiromesifen-containing products.
- Maximum number of applications per calendar year: 2
- In California, a maximum of 2 applications is allowed.
- Minimum application volume:
  - Ground: 100 GPA. **DO NOT APPLY BY AERIAL APPLICATION.**
- **DO NOT** use mechanically-pressurized handguns.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** This product is packaged in poly-ethylene containers. **DO NOT** allow product or containers to freeze. 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 the reach of children, preferable in a locked storage area.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility. Improper disposal of unused pesticide, spray mixture, or rinse water 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 ¼ 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]** [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. Fill the container ¼ 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. Dispose of empty container in a sanitary landfill or by incineration.]

**[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.**

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