



Granular Insecticide

For control of various insects infesting certain field and vegetable crops.

Active Ingredient:	
chlorpyrifos: O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate	15%
Other Ingredients	85%
Total	100%

Keep Out of Reach of Children

CAUTION

Agricultural Use Requirements

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

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

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

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

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

EPA Reg. No. 62719-34-5905

EPA Est. No. 5905-IA-001

AD 102313

Net Weight 50 lb

**MANUFACTURED FOR
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017**

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Precautionary Statements

Hazard to Humans and Domestic Animals

CAUTION

Harmful If Swallowed • Causes Moderate Eye Irritation

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

Personal Protective Equipment (PPE)

Materials that are chemical-resistant to this product are barrier laminate and viton.

Loaders, applicators and all other handlers must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant footwear plus socks
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P, or HE filter

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

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

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

User Safety Recommendations

Users should:

- Wash hands 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.

First Aid

Organophosphate

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have a 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 in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Note to Physicians: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 1-800-992-5994 for emergency medical treatment information.

Environmental Hazards

This pesticide is toxic to fish, aquatic invertebrates, small mammals and birds. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (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 entry into treated areas during the restricted entry interval (REI). The REI for each crop is listed in the directions for use associated with each crop.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and 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 out of any waterproof material
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposures.

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

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers.

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

Nonrefillable nonrigid containers: Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Product Information

SAURUS® granular insecticide is designed for use in listed crops. Target pests and application rates are provided in the accompanying tables.

Use Precautions and Restrictions:

Insecticide Resistance Management (IRM)

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

To delay development of insecticide resistance:

- Avoid consecutive use of insecticides with the same mode of action (same insecticide group) on the same insect species.
- Use tank mixtures or premix products containing insecticides with different modes of action (different insecticide groups) provided the products are registered for the intended use.
- Base insecticide use on comprehensive Integrated Pest Management (IPM) programs.
- Monitor treated insect populations in the field for loss of effectiveness.
- Contact your local extension specialist, certified crop advisor, and or manufacturer for insecticide resistance management and/or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report suspected resistance, you may contact Helena Chemical Company by calling 901-761-0050.

Drift Management

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

Avoiding off-target drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for off-target drift. The applicator is responsible for considering all of these factors when making the decision to apply this product.

Observe the following precautions when applying **SAURUS®** adjacent to permanent bodies of water such as rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds.

The following treatment setbacks or buffer zones must be utilized for applications around the above-listed aquatic areas with the following application equipment:

Application Method	Required Setback (Buffer Zone) (feet)
ground boom/spreader	25
aerial (fixed wing or helicopter)	150

Making applications when wind is blowing away from sensitive areas is the most effective way to reduce the potential for adverse effects.

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

Sensitive sites are areas frequented by non-occupational bystanders (especially children). These include residential lawns, pedestrian sidewalks, outdoor recreational areas such as school grounds, athletic fields, parks and all property associated with buildings occupied by humans for residential or commercial purposes. Sensitive sites include homes, farmworker housing, or other residential buildings, schools,

daycare centers, nursing homes, and hospitals. Non-residential agricultural buildings, including barns, livestock facilities, sheds, and outhouses are not included in this prohibition. For granular applications made via in furrow, T-banded, or post emergent banded application methods, the drift mitigation measures do not apply because there is no potential for drift from these application methods.

Application Rate (lb ai/A)	Required Setback (Buffer Zones) (feet)	
	Aerial	Ground
>0.5 – 1	10	10
>0.5 – 1	25	10
>1 – 2	NA ¹	10
>1 – 2	NA	10
>2 – 3	NA	10
>2 – 3	NA	10
>3 – 4	NA	10
>4	NA	10

¹NA is not allowed.

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

Follow these drift best management practices to avoid off-target drift movement from applications.

Aerial Application

- Do not make applications at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- Use upwind swath displacement and apply only when wind speed is 3 to 10 mph as measured by an anemometer. Do not apply product when wind speed exceeds 10 mph.
- If application includes a no-spray zone, do not release granules at a height greater than 10 feet above the ground or crop canopy.

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

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory.

Aerial Drift Reduction Advisory

This section is advisory in nature and does not supercede the mandatory label requirements.

Application Height: Do not make applications at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator should compensate for this displacement by adjusting the path of the aircraft upwind. Increase swath adjustment distance with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Do not apply below 1.5 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect off-target drift.

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

Ground Boom/Spreader Application

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

- Apply at a height no more than 4 feet above the ground or crop canopy.
- Do not apply product when wind speed exceeds 10 mph as measured by an anemometer.

Application Rates

Do not apply by aircraft at a rate greater than 1 lb ai chlorpyrifos per acre.

Table 1
Application Rates/1000 Ft of Row and Equivalent/Acre
at Different Row Spacings

Ounces of SAURUS® Per 1000 Feet of Row	Pounds of SAURUS® Required Per Acre for Various Row Spacing							
	40"	38"	36"	34"	32"	30"	22"	18"
3.7	3.0	3.2	3.4	3.6	3.8	4.0	5.5	6.7
4	3.3	3.4	3.6	3.8	4.1	4.4	5.9	7.3
4.5	3.7	3.9	4.1	4.3	4.6	4.9	6.7	8.2
6	4.9	5.2	5.4	5.8	6.1	6.5	8.9	10.9
6.5	5.3	5.6	5.9	6.2	6.6	7.1	9.7	11.8
7.5	6.1	6.4	6.8	7.2	7.7	8.2	11.1	13.6
8	6.5	6.9	7.3	7.7	8.2	8.7	11.9	14.5
9	7.4	7.7	8.2	8.6	9.2	9.8	13.4	16.3
12	9.8	10.3	10.9	11.5	12.3	13.1	17.8	21.8
15	12.3	12.9	13.9	14.4	15.3	16.3	22.3	27.2
16	13.1	13.8	14.5	15.4	16.3	17.4	23.8	29.0

Equipment Calibration

Note: The following chart lists initial gauge settings for application of SAURUS® with one hopper opening per row. Be sure to check the actual application rate under your operating conditions.

1. Fill hopper.
2. Attach a plastic bag to tube opening.
3. Set planter to the initial settings shown on chart.
4. Measure off 1000 row feet and drive planter the pre-measured distance at desired speed.
5. Each bag should contain 6 to 8 oz (wt.) of granules depending upon desired rate.
6. If the result is over or under the desired rate, adjust the settings and repeat the calibration.

Table 2
Calibration Settings for Different Types of Equipment

Planter Type	Speed (mph)									
	4		5		6		7		8	
	Application Rate, oz per 1000 ft of row									
	8	16	8	16	8	16	8	16	8	16

	Gauge Setting									
Gandy ¹	21.4	30.2	23.7	32.4	26.0	36.0	27.7	39.0	30.2	41.0
John Deere ¹ Max-Emerge ²	20	44	26	46	30	49	35	52	40	54
John Deere ¹ 7000 Max-Emerge (Odd Nos. on Gate)	14	22	16	24	18	26	19	28	21	30
John Deere ¹ 7000 Max-Emerge (Even Nos. on Gate)	17	30	20	33	24	35	26	36	28	38
John Deere ² 71 Flexi-Planter and Older Planters	1 30	2 17	2 5	2 22	2 9	2 27	2 13	2 31	2 16	3 16
John Deere ³ MaxEmerge Plus	18	-	23	-	29	-	33	-	39	-
Allis Chalmers ⁴ 70 Series	8	13	8	13	8	13	8	13	8	13
Allis Chalmers ⁵ 78 & 79 Series	1 9.0	3 3.0	2 3.3	3 9.5	2 6.0	4 3.0	2 9.0	5 4.0	3 2.5	6 0
Noble ¹ (New)	11	19	14	22	16	25	17	28	19	31
White Planter	11	19	14	22	16	25	17	28	19	31
International Harvester ⁵	1 9.0	3 3.0	2 3.3	3 9.5	2 6.0	4 3.0	2 9.0	5 4.0	3 2.5	6 0
Buffalo All-Flex ⁶ (Fleischer Mfg.)	4 7/8	10	4 7/8	10	4 7/8	10	-	-	-	-

¹Gauge setting

²Gauge setting with range 1 & 2 - number is range.
notch

³An application rate of 16 oz per 1000 ft of row is not attainable with this equipment.

⁴Gauge setting is constant regardless of speed.

⁵Gauge setting shown with stem gates & dial settings – number shown is gate.
dial

⁶Number of turns open on the adjustment nut.

Uses

Alfalfa

(For use only in Missouri)

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

Apply **SAURUS®** at planting as an in-furrow treatment for suppression of the target pests during establishment. Direct the granules into the planter shoe with the seed, or place the applicator tube directly behind the planter shoe so that the granules drop into the seed furrow, or place the granular band applicator behind the planter shoe so that the granules fall on the soil surface and into the open seed furrow and are covered with soil.

Target Pests	SAURUS® (lb/acre)
cutworms grubs wireworms	6.6

Specific Use Restrictions:

- **Preharvest Interval:** Do not cut or graze treated alfalfa within 21 days after application.

- Do not make more than one application of **SAURUS®** or other granular chlorpyrifos product per year.
- Maximum single application rate is 1 lb ai chlorpyrifos (6.6 lb of **SAURUS®**) per acre.
- Do not apply more than a total of 1 lb ai chlorpyrifos (6.6 lb of **SAURUS®**) per acre per year.

Asparagus
(For use only in California)

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

Apply **SAURUS®** as a postharvest ground application for suppression of the target pest. Apply as a band over the entire crown area when the asparagus beds have been split (i.e., remove most of the soil from above the asparagus crowns). Cover the area with soil the day of application. Note: Control may be reduced in soils with high organic matter content.

Target Pest	SAURUS® (lb/acre)
symphylans	10

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 180 days before harvest.
- Do not apply more than a total of 3 lb ai chlorpyrifos (19.8 lb of **SAURUS®**) per acre between harvests.

Brassica (Cole) Leafy Vegetables (Crop Group 5)¹ and Radish, Rutabaga, and Turnip

Worker Restricted Entry Interval: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours (3 days for cauliflower) unless PPE required for early entry is worn.

Brassica (cole) leafy vegetables (crop group 5) including broccoli, broccoli raab, Brussels sprout, cabbage, cauliflower, cavalo broccolo, Chinese broccoli (gai lon), Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, rape greens

For direct seeded and transplanted crops, apply **SAURUS®** as an at-plant T-band as a 4-inch wide band centered over the row. This application requires a spreader or splitter on the end of the applicator drop tube. Shallow incorporation is necessary. For best results, place behind the planter shoe and in front of the press wheel. Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1.

Crops	Target Pests	SAURUS® (oz/1000 ft of row)
broccoli broccoli raab Brussels sprout cabbage cauliflower Chinese broccoli (gai lon) Chinese cabbage (bok choy) Chinese cabbage (napa) Chinese mustard cabbage (gai choy) collards kale kohlrabi rutabaga mizuna mustard greens	root maggots	4.6-9.2 (0.7-1.4 oz ai)

mustard spinach rape greens turnip		
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Specific Use Restrictions:

- **Preharvest Interval:** Do not apply to cauliflower within 21 days before harvest; to broccoli, Brussels sprout, cabbage, Chinese cabbage, collard, kale, kohlrabi, and turnip within 30 days before harvest; to rutabaga within 7 days before harvest.
- Do not foliarly apply any chlorpyrifos product labeled for foliar application (e.g., Lorsban-4E®) within 10 days of an at-plant application of **SAURUS®**.
- Do not make more than one application of **SAURUS®** per season.
- Maximum single application rate is 1.4 oz ai chlorpyrifos (9.2 oz of **SAURUS®**) per 1000 feet of row (36 oz ai chlorpyrifos per acre).
- Do not apply more than 1.13 lb ai chlorpyrifos (7 1/2 lb of **SAURUS®**) per acre to crops planted in 40-inch rows or more than 2.25 lb ai chlorpyrifos (15 lb of **SAURUS®**) per acre to crops planted in 20-inch rows (or two rows per bed). Use proportional amounts for other row spacings not to exceed 2.25 lb ai chlorpyrifos (15 lb of **SAURUS®**) per acre.
- Do not use rutabaga tops for food or feed purposes.

Radish

Apply as an at-plant in-furrow treatment. Place the granules in the seed furrow with the seed at planting time.

Target Pests	SAURUS® (lb/acre)
root maggots	3.3

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 7 days before harvest.
- Do not make more than one application per season.
- Maximum single application rate is 0.5 oz ai chlorpyrifos per 1000 feet of row (2.75 lb ai chlorpyrifos per acre).
- Do not apply more than a total of 3 lb ai chlorpyrifos (18.3 lb of **SAURUS®**) per acre per year.

Citrus (Crop Group 10)¹ Orchard Floors

Worker Restricted Entry Interval: Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days unless PPE required for early entry is worn.

¹Citrus fruits (crop group 10) including calamondin, chironja, citrus citron, citrus hybrids, clementine, grapefruit, kumquat, lemon, lime, mandarin (tangerine), Mediterranean mandarin, pummelo, satsuma mandarin, sour orange, sweet orange, tangelo, tangor

Apply **SAURUS®** as a ground broadcast application directed to the orchard floor to control foraging ants (excluding fire, harvester, carpenter and pharaoh ants) and suppress mounds.

Use a suitable granular applicator, such as a cyclone fertilizer spreader, that uniformly broadcasts the granules over the orchard floor. **SAURUS®** may be custom blended with granular fertilizers provided that the blended mixture can be applied uniformly to the orchard floor. Do not apply where weed growth or other obstructions impede uniform coverage of the orchard floor. Foliar applications of Lorsban-4E® or other product containing chlorpyrifos may be made in addition to the orchard floor treatments of **SAURUS®**, but must comply with the 10-day re-treatment interval (see Specific Use Restrictions).

Target Pests	SAURUS® (lb/acre)
ants (1)	6.6

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

1. Excludes ants of significant public health importance such as fire ants, harvester ants, carpenter ants, and pharaoh ants.

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 28 days before harvest.
- Do not make more than three applications of **SAURUS®** or other product containing chlorpyrifos per year (does not include foliar applications to citrus trees).
- Maximum single application rate is 1 lb ai chlorpyrifos (6.6 lb of **SAURUS®**) per acre.
- Do not apply more than a total of 3 lb ai chlorpyrifos (20 lb of **SAURUS®**) per acre per year.
- Do not make a second application of **SAURUS®** or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in treated areas.

Corn (Field, Sweet, Seed)

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

SAURUS® is compatible with all ALS inhibitor herbicides applied in accordance with label directions. Refer to product labels for additional precautions and directions for use. Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1.

At-Plant T-Band Application

Apply 8 oz of **SAURUS®** per 1000 ft of row as a T-band over an open seed furrow over the row behind the planter shoe, in front of the press wheel. In conventional and minimum-till corn, incorporate into the top 1/2 to 1 inch of soil using suitable equipment. A soil applied T-band treatment may be followed by post-applied herbicides. **SAURUS®** has demonstrated suppression of certain soil-borne pathogens that may result in physiological and agronomic advantages to corn under environmental stress conditions when compared to corn not treated with **SAURUS®**.

At-Plant In-Furrow Application

Apply 8 oz of **SAURUS®** per 1000 ft of row at planting as an in-furrow treatment in conventional, minimum and no-till corn. Direct the granules into the planter shoe with the seed, place the applicator tube directly behind the planter shoe so that the granules drop into the seed furrow, or place the granular band applicator behind the planter shoe so that the granules fall on the soil surface and into the open seed furrow and are covered with soil.

Postplant Application

To control corn rootworm larvae, apply 8 oz of **SAURUS®** per 1000 ft of row at cultivation by placing the granules at the base of the plant on both sides of the row just ahead of the cultivation shovels and covering the granules with soil. To control European or southwestern corn borer larvae, apply **SAURUS®** in a band over the row so that the granules are directed into the whorl or use a postplant broadcast treatment. Consult your state agricultural experiment station or extension service specialist for proper time to treat and local threshold information. Scouting for insect damage is strongly encouraged.

Postplant Broadcast Application

To control European or southwestern corn borers, apply **SAURUS®** by uniformly broadcasting the granules over the corn plants by aerial application. For aerial applications, do not apply within 150 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fish ponds. Apply at a rate of 5 lb of **SAURUS®** per acre for low to moderate first generation infestations or at 6.5 lb of **SAURUS®** per acre for severe first generation infestations and all second generation infestations. Apply before larvae have entered corn stalks. Consult your state agricultural experiment station or extension service specialist for local threshold information. Scouting for insect damage is strongly encouraged.

Target Pests	Banded/In furrow Applications (oz/1000 feet of row)			Aerial Broadcast Application (lb/acre)
	At-Plant Applications		Postplant Application	
	T-Band	In-Furrow		
ants (4)	8	8	-	-
armyworms	-	-	6-8	-
billbugs	8	-	-	-
chinch bugs (1)	8	8	-	-
cutworms (1)	8	8	-	-
European and southwestern corn borer (3)				
1 st Generation	-	-	3.5-8	5-6.5
2 nd Generation	-	-	6-8	6.5
grubs	8	8	-	-
lesser cornstalk borers	8	-	-	-
northern and western corn rootworm larvae	8	8	8	-
seed corn beetles	8	8	-	-
seed corn maggots	8	8	-	-
southern corn rootworm larvae	8	8	8	-
symphylans	8	-	-	-
wireworms (2)	8	8	-	-

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

1. **Cutworms and chinch bugs:** The 8 oz rate provides suppression only for in-furrow treatments.
2. **Wireworms:** For best control, apply as an in-furrow treatment. Consider using a hopper box insecticidal seed treatment with T-band applications.
3. **European corn borer:** When using postplant banded applications, use rates of 3.5 to 4 oz of **SAURUS®** per 1000 feet of row for low to moderate first generation infestations before larvae have entered corn stalks. Use application rates of 6 to 8 oz of **SAURUS®** per 1000 feet of row for severe first generation infestations and all second generation infestations. Make applications before larvae have entered corn stalks.
4. **Ants:** Excludes ants of significant public health importance such as fire ants, harvester ants, carpenter ants, and pharaoh ants. The 8 oz rate provides suppression only for in-furrow treatments.

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 21 days before harvest of grain, ears, forage or fodder.
- Do not make more than three applications of **SAURUS®** or other product containing chlorpyrifos per season, including the maximum allowed of two granular applications, at the 1 lb ai chlorpyrifos rate. Re-treatment with a second soil application of **SAURUS®** is allowed under replant situations due to loss of crop during establishment only when initially applied at the rate of 1 lb ai chlorpyrifos.
- Maximum single application rate for at-plant applications is 1.3 lb ai chlorpyrifos per acre (8 oz of **SAURUS®** per 1000 ft of row).
- Maximum single application rate for postplant application is 1 lb ai chlorpyrifos (6.5 lb of **SAURUS®**) per acre.
- Do not apply more than a total of 3 lb ai chlorpyrifos (19.5 lb of **SAURUS®**) per acre per season.
- Do not make a second application of **SAURUS®** or other product containing chlorpyrifos within 10 days of the first application.
- If more than 1 lb ai granular chlorpyrifos per acre is applied at-plant (for a maximum of 1.3 lb ai chlorpyrifos per acre per season), only one additional application of a liquid product containing chlorpyrifos at 1 lb ai chlorpyrifos per acre is allowed per season, for a total of 2.3 lb ai chlorpyrifos per acre per season.
- Do not apply by aircraft at a rate greater than 1 lb ai chlorpyrifos per acre.
- Do not make more than one at-plant application and one foliar application of **SAURUS®** per season at the 1 lb ai chlorpyrifos rate.

Onion (Dry Bulb)

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

Apply as an at-plant in-furrow treatment. Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1.

Target Pest	SAURUS® (oz/1000 ft of row)
onion maggot (1)	3.7

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

- Onion maggots: In Colorado, Idaho, Washington and Oregon,** for control in onions planted in double rows with rows spaced 2 to 4 inches apart, apply **SAURUS®** at the rate of 3.7 oz per 1000 feet of double row. Place the granules in a 5- to 7-inch wide band over both rows behind the planter shoe and in front of the press wheel to achieve shallow incorporation.

Specific Use Restrictions:

- Do not make more than one application of **SAURUS®** or other product containing chlorpyrifos per year.
- Maximum single application rate is 0.56 oz ai chlorpyrifos per 1000 feet of row.
- Do not apply more than a total of 1 lb ai chlorpyrifos (6.6 lb of **SAURUS®**) per crop season.

Peanut

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

Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1.

At-Plant Preventive Application

Apply **SAURUS®** in a 6- to 12-inch band over the row behind the planter shoe and in front of the press wheel. Incorporate granules to a depth of 1 inch with tines, chains or other suitable equipment. If the 7.5 oz per 1000 feet of row rate is used at planting time, then another application of 7.5 oz per 1000 feet of row should be made postplant to extend control.

Postplant Preventive Application

Apply **SAURUS®** to peanuts at early flowering to pegging stage of growth in a 6- to 8-inch band over the row. For extended insect control and continued suppression of white mold (southern blight), a second application of **SAURUS®** may be made (see Specific Use Restrictions).

Band Rescue Application

Apply **SAURUS®** in a 10- to 18-inch band over the fruiting zone.

Target Pests	Banded Applications (oz/1000 feet of row)	
	At-Plant Application	Postplant Application
Preventative application: cutworms lesser cornstalk borer southern corn rootworm larvae wireworms white mold (southern blight) (1)	7.5-15	7.5-15
potato leafhopper	-	15
Rescue application: lesser cornstalk borer (2)	-	7.5-15

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

1. **Suppression of white mold:** Best suppression of white mold (southern blight) is obtained by applying the maximum rate of 15 oz of **SAURUS®** per 1000 ft of row. Irrigation or rain following application is needed to enhance treatment effectiveness for suppression of white mold. Under conditions of heavy white mold pressure, a suitable fungicide may also be required and must be applied separately.
2. **Lesser cornstalk borer:** Use **SAURUS®** for the control of lesser cornstalk borer as a rescue treatment when the insect first appears, usually just prior to or at pegging.

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 21 days before harvest.
- Do not make more than two applications of **SAURUS®** per year.
- Maximum single application rate is 15 oz of **SAURUS®** per 1000 feet of row.
- Do not apply more than a total of 4 lb ai chlorpyrifos (26.4 lb of **SAURUS®**) per acre (15 oz of **SAURUS®** per 1000 feet of row) per crop season.
- The combined total of preplant and postplant applications of Lorsban-4E®, **SAURUS®** or other product containing chlorpyrifos, must not exceed 4 lb ai chlorpyrifos (26.4 lb of **SAURUS®**) per acre per crop season.
- Do not make a second application of **SAURUS®** or other product containing chlorpyrifos within 10 days of the first application.
- Do not feed treated peanut forage or hay to meat or dairy animals.
- Aerial application to peanuts is prohibited.

Sorghum - Grain Sorghum (Milo)

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

Apply as an at-plant T-band in a 6- to 8-inch band over the open seed furrow in front of the press wheel and incorporate into the top 1/2 to 1 inch of soil using suitable equipment. Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1. Use the lowest rate in the rate range for lesser cornstalk borer control when protection is desired for 2 to 3 weeks, or a higher rate in the rate range for longer residual activity. It is absolutely necessary to incorporate the granules, especially at lower rates.

Target Pests	At Plant T-Band Applications (oz/1000 feet of row)
lesser cornstalk borer	4-8
ants (2) chinch bugs (1) corn rootworm cutworms	8

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

1. **Chinch bugs:** 8 oz rate suppression only.
2. **Ants:** Excludes ants of significant public health importance such as fire ants, harvester ants, carpenter ants, and pharaoh ants. 8 oz rate suppression only.

Specific Use Restrictions:

- Do not make more than one application of **SAURUS®** per season.
- Maximum single application rate is 1.3 lb ai chlorpyrifos in 30-inch row spacing (8 oz of **SAURUS®** per 1000 feet of row). Use proportional amounts for other row spacings not to exceed 1.5 lb ai chlorpyrifos (9.9 lb of **SAURUS®**) per acre.
- Do not apply more than a total of 1.5 lb ai chlorpyrifos (9.9 lb of **SAURUS®**) per acre per year.
- Do not make a foliar application of Lorsban-4E® or other product containing chlorpyrifos within 10 days of an at-plant application of **SAURUS®**.

Soybean

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

Apply as an at-plant T-band in a 4- to 10-inch band over an open seed furrow in front of the press wheel and incorporate into the top 1/2 to 1 inch of soil using suitable equipment. For postplant application, incorporate the granules in a 4- to 10-inch band to a depth of 1/2 to 1 inch using a suitable cultivator. Apply **SAURUS®** with equipment that provides uniform distribution of the granules over the row. Equivalent rates of **SAURUS®** per acre for various row spacing are given in Table 1.

Target Pests	Banded Applications (oz/1000 feet of row)	
	At Plant T-Band	Postplant
cutworms	8	8
lesser cornstalk borer		
ants (suppression) (1)	8	-

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

1. Excludes ants of significant public health importance such as fire ants, harvester ants, carpenter ants, and pharaoh ants.

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 28 days before harvest.
- Do not make more than three applications of any product containing chlorpyrifos per season with a maximum of one granular application and two liquid applications.
- Maximum single application rate is 1.2 oz ai chlorpyrifos (8 oz of **SAURUS®**) per 1000 feet of row.
- Maximum single application rate is 2 lb ai chlorpyrifos (13.2 lb of **SAURUS®**) per acre for preplant/at-plant incorporation and 1 lb ai chlorpyrifos (6.6 lb of **SAURUS®**) per acre for foliar and postharvest application.
- Do not make a foliar application of Lorsban-4E® or other product containing chlorpyrifos within 10 days of an at-plant application of **SAURUS®**.
- Do not apply as an in-furrow treatment.

Sugarbeet

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

Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1.

At-Plant T-Band Application

Apply **SAURUS®** in a band 4 to 5 inches wide behind the planter shoe, over the drill row, and **in front** of the press wheel. **Do not apply granules in direct contact with seeds.** Apply **SAURUS®** at the rate of 4.5 to 9 oz per 1000 feet of row (equivalent to 6.7 to 13.4 lb of **SAURUS®** per acre based upon 22-inch row spacing). Incorporate **SAURUS®** into the top 1/2 to 1 inch of soil using suitable equipment.

Postemergence Band Application

Apply **SAURUS®** in a band 3 to 5 inches wide over the beet row (up to 2 to 4 true leaf stage of plant growth). Apply **SAURUS®** at the rate of 6.5 to 9 oz per 1000 feet of row (equivalent to 10 to 13.5 lb of **SAURUS®** per acre based upon 22-inch row spacing). Incorporate **SAURUS®** into the top 1/2 to 1 inch of soil using suitable equipment.

Target Pests	Banded Applications (oz/1000 feet of row)	
	At-Plant T-Band	Postplant Application
sugarbeet root maggot (1)	4.5-9	6.5-9
cutworms	6.6-9	-
wireworms (suppression)	6.5-9	-

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

Pest-Specific Use Directions:

1. **Root maggot:** When populations are expected to be low, apply **SAURUS®** at a rate of 4.5 oz per 1000 feet of row (equivalent to 6.75 lb of **SAURUS®** per acre based upon 22-inch row spacing). If initial adult fly activity indicates higher than anticipated populations, apply Lorsban-4E® at or near the time of peak adult emergence to augment control.

Specific Use Precautions: Granular insecticides, including **SAURUS®**, may contribute to the stress of the sugarbeet plant under certain environmental conditions. This stress may reduce plant stand or interfere with normal plant development. Herbicides used preplant incorporated may interact with insecticides and enhance this stress.

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 30 days before harvest of beet roots and tops.
- Do not make more than one application of **SAURUS®** per season or apply more than 2 lb ai chlorpyrifos per acre per season.
- Maximum single application rate is 1.35 oz ai chlorpyrifos per 1000 feet of row or 2 lb ai chlorpyrifos (13.2 lb of **SAURUS®**) per acre based upon a 22-inch row spacing.
- Do not apply more than a total of 3 lb ai chlorpyrifos (19.8 lb of **SAURUS®**) per acre per year, or make more than three applications of products containing chlorpyrifos per season.
- Do not make a foliar application of Lorsban-4E® or other product containing chlorpyrifos within 10 days of an at-plant application of **SAURUS®**.

Sunflower

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

Apply as an at-plant T-band. Place the granules in a 7-inch wide band over the row behind the planter shoe in front of the press wheel and incorporate into the top 1 inch of soil using suitable equipment. Equivalent rates of **SAURUS®** per acre for various row spacings are given in Table 1.

Target Pests	SAURUS® (oz/1000 ft of row)
cutworms	8

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 42 days before harvest.
- Do not make more than three applications of any product containing chlorpyrifos per season with a maximum of one granular application and two liquid applications.
- Maximum single application rate is 1.25 oz ai chlorpyrifos per 1000 feet of row or 1.3 lb ai chlorpyrifos per acre based upon a 30-inch row spacing.
- Maximum single application rate is 2 lb ai chlorpyrifos (13.2 lb of **SAURUS®**) per acre for preplant/at-plant incorporation and 1 lb ai chlorpyrifos (6.6 lb of **SAURUS®**) per acre for foliar and postharvest application.
- Do not make a foliar application of Lorsban-4E® or other product containing chlorpyrifos within 10 days of an at-plant application of **SAURUS®**.

Sweet Potato

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

Apply **SAURUS®** as a preplant broadcast treatment by evenly distributing the granules over the soil surface and then incorporating them into the soil to a depth of 4 to 6 inches using a rotary hoe, disc cultivator, or other suitable equipment. Plant the crop in the usual manner no more than 14 days after treatment. Delaying planting more than 14 days after application will reduce the time interval of protection against feeding damage.

Target Pests	SAURUS® (lb/acre)
<i>Conderus</i> (wireworm) <i>Systema</i> (flea beetle) sweet potato flea beetle	13.5

Specific Use Precaution:

- **SAURUS®** will not control false wireworm, white fringe beetle or other grubs that attack sweet potatoes.

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 125 days before harvest.
- Do not make more than one application of **SAURUS®** or other product containing chlorpyrifos per season.
- Maximum single application rate is 2 lb ai chlorpyrifos (13.5 lb of **SAURUS®**) per acre.
- Do not apply more than a total of 2 lb ai chlorpyrifos (13.5 lb of **SAURUS®**) per acre per year.

Tobacco

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

Apply **SAURUS®** as a preplant broadcast treatment one week before transplanting using equipment that evenly distributes the granules over a treated area. Immediately following application, incorporate the granules into the soil to a depth of 2 to 4 inches using suitable equipment.

Target Pests	SAURUS® (lb/acre)
cutworms flea beetles mole crickets root maggots wireworms	13.5

Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 7 days before harvest.
- Do not make more than one application of **SAURUS®** or other product containing chlorpyrifos per season.
- Maximum single application rate is 2 lb ai chlorpyrifos (13.5 lb of **SAURUS®**) per acre.
- Do not apply more than a total of 2 lb ai chlorpyrifos (13.5 lb of **SAURUS®**) per acre per year.

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