



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

January 6, 2022

Jolanta Ozatalay  
Agent for Fine Agrochemicals Ltd.  
1850 Mt. Diablo Blvd., Suite #405  
Walnut Creek, CA 94596

Subject: Label Amendment – Revising Label Language, Correction of Typographical Errors and Label Formatting  
Product Name: Shortstop 2SC  
EPA Registration Number: 62097-34  
Application Date: March 24, 2020  
Decision Number: 563484

Dear Jolanta Ozatalay:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

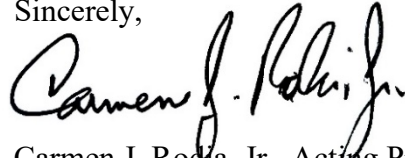
A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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 the Federal Insecticide Fungicide and Rodenticide Act 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) list 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.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact James Orrock via email at [Orrock.James@epa.gov](mailto:Orrock.James@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "Carmen J. Roda, Jr." The signature is written in a cursive style with a large initial "C" and a distinct "Jr." at the end.

Carmen J. Roda, Jr., Acting Product Manager 22  
Fungicide Branch, Registration Division (7505P)

Enclosure

Note for reviewer- text in [ ] is an optional text.

# Shortstop® 2SC

Plant Growth Regulator for Trees and Shrubs

**ACTIVE INGREDIENT:**

Paclobutrazol ((±) -(R\*,R\*)-β-[(4-Chlorophenyl)methyl)-α-(1,1-dimethylethyl)-

1H-1,2,4-triazole-1-ethanol) .....22.3%

**OTHER INGREDIENTS:** .....77.7%

**TOTAL** .....100.0%

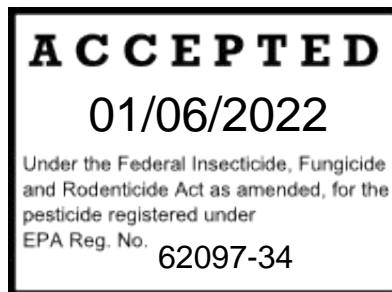
Shortstop® 2SC contains 2 lbs. active ingredient per gallon.

EPA Reg. No.: 62097-34

EPA Est. No.

Net Contents: [1 Gallon] [5 Gallons]

Batch No.



**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

[See inside panel for [First Aid,] Precautionary, Storage and Disposal Statements, and Directions for Use]

**SHAKE WELL BEFORE EACH USE**

FIRST AID	
<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 15-20minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</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 information on this pesticide product (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.

### **PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION.** Harmful if absorbed through skin, inhaled, or swallowed. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long sleeved shirt and long pants, socks, shoes, and gloves. Remove and wash contaminated clothing before reuse.

#### **PERSONAL PROTECTIVE EQUIPMENT**

##### **Personal Protective Equipment (PPE)**

##### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof or chemical-resistant gloves such as 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  $\geq$  14 mils, or viton  $\geq$  14 mils.
- Shoes plus socks

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. Wash PPE after each day's use

#### **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**

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 by cleaning of equipment or disposal of equipment washwaters or rinsate.

## PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation. Read all label directions carefully before use.

**Failure to follow directions and precautions on this label may result in plant injury or poor growth control.**

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and

greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements

in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

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

- Coveralls.
- Chemical resistant gloves made of any waterproof material such as Barrier Laminate, Butyl Rubber, Nitrile Rubber, Neoprene Rubber, Polyvinyl Chloride, or Viton.
- Protective eye wear (goggles, face shield, or safety glasses).
- Shoes plus socks.

## GENERAL INFORMATION

Shortstop® 2SC is a systemic, xylem mobile plant growth regulator for use on selected trees, shrubs and landscape plantings that slows vegetative growth by inhibiting gibberellin biosynthesis. Shortstop® 2SC reduces the above ground vegetative growth and changes specific morphological characteristics of the treated plant. Slowed vegetative growth reduces the volume of woody growth that must be removed when trimming occurs and may extend the trimming cycle. Treatment with Shortstop® 2SC may result in other beneficial plant growth effects including increased root development, and improved drought, insect and disease tolerance.

Trees and shrubs treated with Shortstop® 2SC will exhibit shorter internodes, increased stem caliper, thicker leaf cuticle and an increase in fine root growth of some species. Initial effects of Shortstop® 2SC may be observed as greening of the foliage, without phytotoxicity. Shortstop® 2SC is equally effective when applied as a basal soil drench or by soil injection. Shortstop® 2SC can be used on listed trees found in areas such as utility rights-of-way, urban environments, residential areas, parks, commercial and other non-crop areas.

### **Symptoms of Growth Regulation**

Activity of Shortstop® 2SC occurs following root uptake and xylem translocation throughout the tree canopy. Shortstop® 2SC demonstrates little or no phloem mobility. Symptoms of growth regulation on trees may not be visible for up to 18 months following application of Shortstop® 2SC. At the time when normal vegetative growth extension should occur, trees treated with Shortstop® 2SC will exhibit shortened internodes which may be somewhat thickened. Smaller leaf size and enhanced flowering may also be observed in some species.

On woody shrubs, Shortstop® 2SC reduces vegetative growth and creates beneficial changes including increased root hair growth and darker, green foliage. Soil applications on woody shrubs show 90-95% growth control for 1-2 years, depending on the length of the growing season, sunlight exposure, soil texture, rainfall and temperature conditions. Shortstop® 2SC is equally effective when applied as a basal drench or by soil injection.

Foliar sprays of Shortstop® 2SC on shrubs and specified landscape plants typically provide up to 3-6 months of activity. Length of control with foliar sprays is influenced by application timing, amount of pruning performed, soil type, growing conditions and plant species.

### **RESTRICTIONS**

- Apply at labeled rates and always follow safety procedures.
- Do not treat sugar maple trees or any other trees that are or could be tapped for sugar.
- Do not treat nut or fruit trees that will be harvested within one year.
- Do not treat trees which are severely stressed due to moisture, temperature, low soil fertility, or exhibit mechanical or chemical injury.
- Do not reapply Shortstop® 2SC until symptoms from previous applications begin to subside or within 3 years of the last application, whichever comes first.
- For shrubs use, do not use on areas to be cultivated for food or food crops within two years of treatment.
- For shrubs use, do not apply more than 1 gallon per acre per application (2 lbs. ai/A).
- For shrubs use, do not apply more than 1 gallon per acre per year (2 lbs. ai/A).

- For shrubs use, do not treat plants more than 4 times per year.
- Do not apply by air or with a ground boom sprayer.

**Chemigation:** Do not apply this product through any type of irrigation system.

### **PRECAUTIONS**

- Trees not used for food production that are not specifically listed on this label may be treated if all other label directions are followed.
- Basal drench and soil injection application of Shortstop® 2SC may result in localized, temporary discoloration of turfgrass immediately adjacent to the treatment site.
- Ensure that basal drenches on slopes or other areas subject to erosion by rainfall or irrigation are deep enough and adequately covered with fresh soil. The use of one or more soil dams in the temporary berm can increase application uniformity.
- Treatment of trees bordered by shrubs and/or herbaceous ornamentals may result in these plants being affected if their roots extend into the treatment zone.

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.

### **COMPATIBILITY**

Conduct a compatibility test when you plan to mix Shortstop® 2SC with other products. To determine the physical compatibility of Shortstop® 2SC with other products, use a jar test. Using a quart jar, add the proportionate amounts of the products to approximately one quart of water with agitation. Add dry formulations first, then flowables, and then emulsifiable concentrates last. After thorough mixing, allow this mixture to stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding products to the spray tank. Follow the more restrictive labeling of any tank mix partner. Do not tank mix with products whose label prohibits tank mixing. Treat a small test plot if new combinations of products are being used for the first time.

### **USE DIRECTIONS**

#### **Controlling the Growth of Trees with Shortstop® 2 SC**

##### **Application Timing**

Applications can be made throughout the year, weather permitting, except when soil is either saturated with water or frozen.

**Note:** Shortstop® 2SC is absorbed by plant roots and translocated to the growing tissues in response to evaporative water loss (transpiration). If applications of Shortstop® 2SC are made after fall leaf drop, uptake will not occur until development of new leaves in the spring and resumption of transpiration.

### **Mixing Directions**

Applications are made with a diluted mixture composed of one part Shortstop® 2SC to 11 parts water. Mix 10.7 fl oz (317 mL) of Shortstop® 2SC with water to make one gallon of diluted mixture. One gallon of Shortstop® 2SC will make 12 gallons of diluted mixture.

### **Application Methods**

Apply Shortstop® 2SC either as a basal drench or by soil injection. Only trees that are well established in their final location should be treated with Shortstop® 2SC. Do not treat trees less than 1.5 inches in diameter at breast height.

**Note:** Application rates for trees from 1.5 to 3.9 inches in DBH should be reduced by 50% for use rates of 0.75 – 2.5 grams per inch and by 25% for use rates of 2.75 – 4.0 grams per inch DBH.

Diameter at breast height, or DBH, is a standard method of expressing the diameter of the trunk of a standing tree. Tree trunks are measured at the height of an adult's breast, which is generally defined as a height of 4.5 feet above ground.

Trunk diameter (the distance through the center of the trunk from one side to the other) can be determined precisely by using a caliper, or by using a measuring tape to determine the circumference (linear distance around the surface of the tree). The trunk diameter can then be calculated by dividing the circumference of the trunk by 3.142. Example: 25" circumference / 3.142 = 8" diameter.

To limit unwanted surface runoff in outdoor ornamental uses, do not apply when growth media is saturated.

### **Basal Drench**

Shortstop® 2SC may be applied to the soil as a basal drench to reduce above ground vegetative growth. Apply the required dose of diluted mixture of Shortstop® 2SC based on the tree size (Diameter at Breast Height; DBH) and species as shown in Tables 1 and 2 below.

Prior to application, make a 2-5" deep furrow around the base of the tree near the point of contact between the soil and the tree trunk (Figure 1). Apply the required dose as identified in Table 1 and Table 2. Carefully pour the diluted mixture of Shortstop 2SC into the furrow with a graduated container/jug or with a handheld hose connected to a truck-mounted



tank/hydraulic sprayer. To avoid possible product runoff after applying, refill the furrow with untreated soil.

### Soil Injection

Inject the diluted mixture of Shortstop<sup>®</sup> 2SC into the root zone, approximately 6 inches deep. Use soil injection equipment capable of delivery at 100 to 200 psi. Orient injection orifices to release the diluted product horizontally at the point of injection. Divide the required dose evenly among injection sites spaced as uniformly as possible around the tree trunk.

Position the injection sites to release Shortstop<sup>®</sup> 2SC diluted mixture as close as possible to the point of contact between soil and unthickened bark beneath the soil so that the active ingredient may be readily absorbed by the tree (Figure 2). Locate injection sites next to buttress roots. For trees less than 6 inches DBH, use at least 4 evenly spaced injection sites per tree.

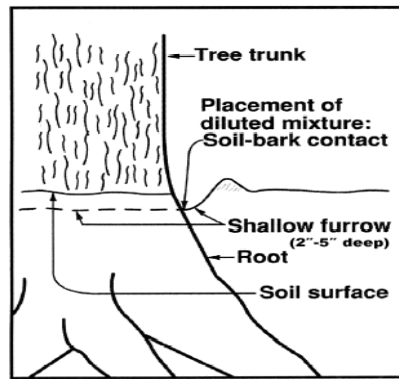


Figure 1. Placement of Shortstop<sup>®</sup> 2SC as basal drench

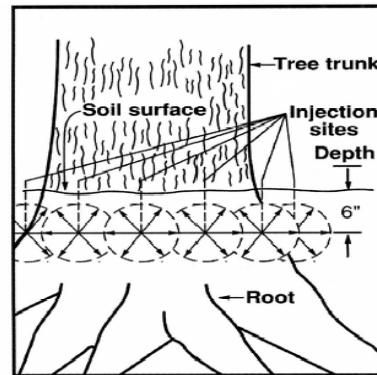


Figure 2. Placement of Shortstop<sup>®</sup> 2SC as a soil injected treatment

Table 1

Application Rate Ranges for Diluted Mixture of Shortstop <sup>®</sup> 2SC for Treatment of Various Tree Species <sup>1</sup>				
0.75 to 1 gram active ingredient per inch DBH <sup>2</sup> (37.5 to 50 mL) (1.3 to 1.7 fl oz)	1 to 2 grams Active ingredient per inch DBH <sup>2</sup> (50 to 100 mL) (1.7 to 3.4 fl oz)	2 to 3 grams Active ingredient per inch DBH <sup>2</sup> (100 to 150 mL) (3.4 to 5.1 fl oz)	3 to 4 grams active ingredient per inch DBH <sup>2</sup> (150 TO 200 mL) (5.1 to 6.8 fl oz)	
Chinese Elm Dogwood	Australian Pine Cedar Elm Cypress Freeman Maple Japanese Maple Katsura Linden	Ailanthus Australian Bottle Basswood Blackgum Boxelder Buckeye California Pepper	Alder African Sumac Anaqua Ash Aspen Banyan Bay Laurel <sup>3</sup>	Melaleuca Mimosa Mulberry <sup>3</sup> Oaks (Except Live) Olive <sup>3</sup> Osage Orange Palos Verde

Application Rate Ranges for Diluted Mixture of Shortstop® 2SC for Treatment of Various Tree Species <sup>1</sup>				
0.75 to 1 gram active ingredient per inch DBH <sup>2</sup> (37.5 to 50 mL) (1.3 to 1.7 fl oz)	1 to 2 grams Active ingredient per inch DBH <sup>2</sup> (50 to 100 mL) (1.7 to 3.4 fl oz)	2 to 3 grams Active ingredient per inch DBH <sup>2</sup> (100 to 150 mL) (3.4 to 5.1 fl oz)	3 to 4 grams active ingredient per inch DBH <sup>2</sup> (150 TO 200 mL) (5.1 to 6.8 fl oz)	
	Redbud Serviceberry <sup>3</sup> State Street Maple <sup>3</sup> Sweetgum	Crepe Myrtle Elm (Except Cedar and Varieties of Chinese) Horse Chestnut Ironwood Live Oak Locust Maples <sup>3</sup> (Except Japanese, State Street, Freeman and Varieties of Freeman) Mountain Ash Oleander Persimmon <sup>3</sup> Rosewood Zelcova	Beech Birch Camphor Catalpa Cedar, Red Cherry <sup>3</sup> Chinaberry Cottonwood Eucalyptus Flowering Crab Gingko <sup>3</sup> Golden Raintree Hackberry Hawthorne Hickory Holly <sup>3</sup> Huisache Jacaranda Kentucky Coffee <sup>3</sup> Laurel Lilac Tree Locust Magnolia <sup>3</sup>	Paulownia Pear <sup>3</sup> Pecan <sup>3</sup> Pine Plum <sup>3</sup> (Ornamental) Poplar Redwood Saltcedar Sassafras Soapberry Spruce (Except Blue) Sugarberry <sup>3</sup> Sycamore Tabebuia Tallow (Chinese) Tallowood Tamarisk Texas Ebony Tulip/Yellow Poplar Walnut <sup>3</sup> Willow

<sup>1</sup> For acidic soils (low pH), soils with high organic matter content or soils with high clay content, use the higher rate, not to exceed 4 grams active ingredient per inch DBH\*.

<sup>2</sup> DBH = tree diameter at breast height

<sup>3</sup> Do not apply to plants that would be harvested within a year

**Table 2**

Amount of Shortstop® 2SC Diluted Mixture Required for Specific Application Rates and Tree Sizes				
Diameter of Tree at Breast Height (DBH) (inches)	1.7 fl oz (50 mL) per inch DBH*	3.4 fl oz (100 mL) per inch DBH*	5.1 fl oz (150 mL) per inch DBH*	6.8 fl oz (200 mL) per inch DBH*
	Total fl oz (mL) diluted mixture required			
4	6.8 (200)	13.6 (400)	20.4 (600)	27.2 (800)
5	8.5 (250)	17.0 (500)	25.5 (750)	34.0 (1000)
6	10.2 (300)	20.4 (600)	30.6 (900)	40.8 (1200)
7	11.9 (350)	23.8 (700)	35.7 (1050)	47.6 (1400)
8	13.6 (400)	27.2 (800)	40.8 (1200)	54.4 (1600)
9	15.3 (450)	30.6 (900)	45.9 (1350)	61.2 (1800)
10	17.0 (500)	34.0 (1000)	51.0 (1500)	68.0 (2000)
12	20.4 (600)	40.8 (1200)	61.2 (1800)	81.6 (2400)

Amount of Shortstop® 2SC Diluted Mixture Required for Specific Application Rates and Tree Sizes				
Diameter of Tree at Breast Height (DBH) (inches)	1.7 fl oz (50 mL) per inch DBH*	3.4 fl oz (100 mL) per inch DBH*	5.1 fl oz (150 mL) per inch DBH*	6.8 fl oz (200 mL) per inch DBH*
	Total fl oz (mL) diluted mixture required			
14	23.8 (700)	47.6 (1400)	71.4 (2100)	95.2 (2800)
16	27.2 (800)	54.4 (1600)	81.6 (2400)	108.8 (3200)
18	30.6 (900)	61.2 (1800)	91.8 (2700)	122.4 (3600)
20	34.0 (1000)	68.0 (2000)	102.0 (3000)	136.0 (4000)
22	37.4 (1100)	74.8 (2200)	112.2 (3300)	149.6 (4400)
24	40.8 (1200)	81.6 (2400)	122.4 (3600)	163.2 (4800)
26	44.2 (1300)	88.4 (2600)	132.6 (3900)	176.8 (5200)
28	47.6 (1400)	95.2 (2800)	142.8 (4200)	190.4 (5600)
30	51.0 (1500)	102.0 (3000)	153.0 (4500)	204.0 (6000)
32	54.4 (1600)	108.8 (3200)	163.2 (4800)	217.6 (6400)
34	57.8 (1700)	115.6 (3400)	173.4 (5100)	231.2 (6800)
36	61.2 (1800)	122.4 (3600)	183.6 (5400)	244.8 (7200)

\* DBH = tree diameter at breast height

## Controlling the Growth of Woody Shrubs with Shortstop® 2SC

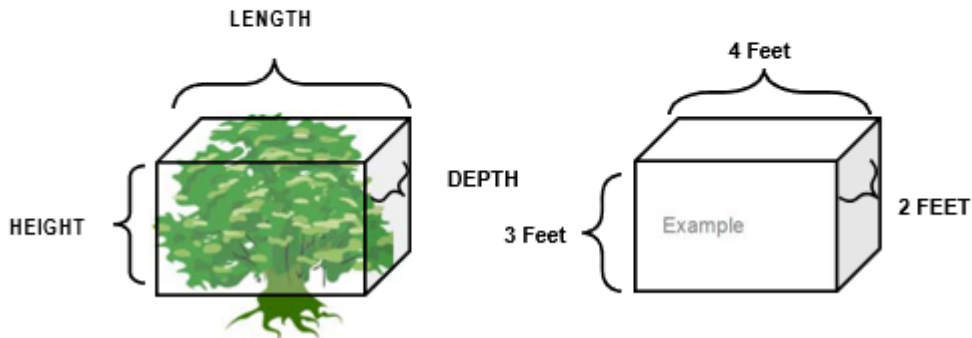
### Soil Injection/Basal Drench

Soil injections or basal drenches of Shortstop® 2SC are an effective tool for controlling the growth of woody shrubs in landscape settings. The growth control is approximately 90% and lasts for 1-2 years, depending on the length of the growing season.

Applications are made with a diluted mixture composed of 1 part Shortstop® 2SC to 11 parts water. Mix 10.7 fl oz (317 mL) of Shortstop® 2SC with water to make one gallon of diluted mixture. One gallon of Shortstop® 2SC will make 12 gallons of diluted mixture.

- 1) Identify the shrub species and calculate the size of the “shrub crown.”
  - a. The size (or volume) of the “shrub crown” is calculated by using the volume formula  $L \times W \times H$  (in feet).
  - b. When measuring crown volume, include only significant branches. **Do not** include stems or the trunk in the volume calculations if it is not within the crown itself.

**Volume of Shrub =**  
 Height x Length x Depth  
 3 ft x 4 ft x 2 ft =  
**24 ft<sup>3</sup>**



- c. Determine how much Shortstop<sup>®</sup> 2SC diluted mixture should be used on the selected woody shrubs. Match the total shrub volume in cubic feet (ft<sup>3</sup>) with the volume amounts in Table 3 to determine the total volume. If the amount needed is found to be between two volumes, select either the average of the two volumes or the higher of the two volumes.

### Basal Drench

Prior to application, dig a shallow furrow 2 – 6 inches deep around the base of the tree near the point of contact between the soil and the tree trunk (figure 1). Carefully pour the diluted mixture of Shortstop evenly around the tree into the furrow with a graduated container/jug or with a hand-held hose connected to a trunk-mounted tank/hydraulic sprayer. To avoid possible product runoff after applying, refill the furrow with untreated soil.

### Restriction

Do not apply product to soil when soil is already saturated. Heavy rainfall or irrigation in treated areas may cause active ingredient to move laterally on slopes and collect in low areas. These areas may undergo more severe growth control for a longer period of time.

### Soil Injection

Inject the Ready to Use solution approximately 2-6 inches deep at 50-200 psi using the volumes in Table 3. Orient injection orifices to release the diluted product horizontally at the point of injection. Divide the required dose evenly among injection sites spaced as uniformly as possible around the base of the tree.

Position the injection sites to release the diluted Shortstop 2SC as close as possible to the point of contact between the soil and the plant beneath the soil so that the solution is readily absorbed by the roots (Figure 2). Use at least 4 injection sites evenly spaced around the plant.

## Notes for Woody Shrubs Soil Applications

- Newly planted or containerized shrubs need only 60% of the prescribed volume. For single stem applications, place product closely around the shrub base. For multiple stem applications, place product close around the base and within stem groupings. Intermittent trimming to keep tight formal appearance will not remove enough product to lose growth control in most shrubs.
- To limit unwanted surface runoff in outdoor ornamental uses, do not apply when growth media is saturated.

**Table 3**

**Drench Rates for Individual Woody Shrubs using Diluted Mixture of Shortstop® 2SC Tree Growth Regulator Total Volume of Diluted Mixture in Milliliters & Ounces**

Crown Volume (R3)	Spirea		Boxwood, Privet, Ligustrum Rhododendron		Abelia, Eleagnus Forsythia, Japonicum Korean Viburnum		Barberry Camellia Photinia		Burning Bush		Viburnum Rose of Sharon Holly		Arborvitae Cherry Laurel Juniper, Yew	
	mLs	oz	mLs	oz	mLs	oz	mLs	oz	mLs	oz	mLs	oz	mLs	oz
<b>4</b>	100	3.4	155	5.2	190	6.4	200	6.8	250	8.4	340	11.5	400	13.5
<b>8</b>	115	3.9	175	5.9	200	6.8	230	7.8	270	9.1	345	11.7	450	15.2
<b>12</b>	130	4.4	200	6.8	210	7.1	270	9.1	300	10.1	350	11.8	510	17.2
<b>18</b>	150	5.1	220	7.4	220	7.4	305	10.3	350	11.8	370	12.5	600	20.3
<b>27</b>	165	5.6	240	8.1	235	7.9	340	11.5	370	12.5	380	12.8	650	22.0
<b>36</b>	180	6.1	260	8.8	250	8.4	380	12.8	410	13.9	400	13.5	700	23.6
<b>48</b>	200	6.8	275	9.3	265	9.0	405	13.7	450	15.2	430	14.5	800	27.0
<b>64</b>	215	7.3	290	9.8	300	10.1	420	14.2	480	16.2	450	15.2	900	30.4
<b>80</b>	230	7.8	305	10.3	325	11.0	435	14.7	510	17.2	480	16.2	1000	33.8
<b>100</b>	250	8.4	315	10.6	340	11.5	455	15.4	550	18.6	510	17.2	1200	40.5
<b>130</b>	260	8.8	345	11.7	360	12.2	500	16.9	580	19.6	550	18.6	1300	43.9
<b>150</b>	270	9.1	365	12.3	370	12.5	520	17.6	610	20.6	580	19.6	1400	47.3
<b>180</b>	280	9.5	390	13.2	385	13.0	545	18.4	660	22.3	650	22.0	1550	52.4
<b>220</b>	290	9.8	420	14.2	405	13.7	565	19.1	680	23.0	710	24.0	1650	55.7
<b>250</b>	300	10.1	435	14.7	415	14.0	575	19.4	710	24.0	750	25.3	1850	62.5
<b>300</b>	310	10.5	460	15.5	430	14.5	590	19.9	750	25.3	770	26.0	2000	67.6

## Foliar Sprays

- Shortstop® 2SC as a foliar spray can provide growth suppression of a wide range of shrubs, growing in outdoor, non-crop areas, nurseries, parks, commercial buildings, right-of-way areas, street medium, roadsides, fence rows

and non-irrigation ditch banks. Shortstop is absorbed through leaves, buds, new shoots and roots and applications can be made throughout the growing season. See Table 4 for foliar spray rates and associated application notes.

- In outdoor commercial ornamental and nursery uses, follow foliar applications of Shortstop® 2SC with irrigation within 24 hours to remove product from foliage and limit surface movement. If overhead irrigation is not available, time treatment applications to allow Shortstop® 2SC to dry on the treated surface prior to rainfall.
- To limit unwanted surface runoff in outdoor ornamental uses, do not apply when growth media is saturated.

**Table 4**

<b>Foliar Spray Application Rate Ranges for Diluted Mixture of Shortstop® 2SC for treatment of Various Shrub Species.</b>			
<b>Plant Name</b>	<b>Scientific Name</b>	<b>Rate per Gallon of Spray Solution</b>	
		<b>fl. oz.</b>	<b>ml</b>
Abelia	<i>Abella x grandiflora</i>	1.0 - 3.5	30 - 105
Alpine Current	<i>Ribes</i> spp.	1.0 - 2.5	30 - 75
Arboricola	<i>Shefflera arboricola</i>	2.5 - 5.0	75 - 150
Arborvitae	<i>Thuja</i> spp.	2.5 - 5.0	75 - 150
Azalea	<i>Rhododendron</i> spp.	0.5 - 2.5	15 - 75
Barberry	<i>Berberis</i> spp.	1.0 - 2.5	30 - 75
Bottlebrush	<i>Callistemon</i> spp.	1.0 - 2.5	30 - 75
Boston Ivy	<i>Parthenocissus tricuspidata</i>	0.5 - 2.5	15 - 75
Bougainvillea	<i>Bougainvillea</i> spp.	2.5 - 5.0	75 - 150
Boxwood	<i>Buxus</i> spp.	1.0 - 3.5	30 - 105
Butterfly Bush	<i>Buddleia</i> spp.	0.5 - 1.0	15 - 30
Cherry Laurel & English Laurel	<i>Prunus</i> spp.	0.5 - 1.0	15 - 30
Cocoplum	<i>Chrysobalanus icaco</i>	1.0 - 5.0	30 - 150
Copperleaf	<i>Acalypha wilkesiana</i>	1.0 - 5.0	30 - 150
Cotoneaster	<i>Cotoneaster</i> spp.	1.0 - 2.5	30 - 75
Creeping Fig	<i>Ficus pumila, Ficus repens</i>	2.5 - 5.0	75 - 150
Elaeagnus	<i>Elaeagnus pungens</i>	2.5 - 5.0	75 - 150
English Ivy	<i>Hedera</i> spp.	0.5 - 2.5	15 - 75
Escallonia	<i>Escallonia</i> spp.	2.5 - 5.0	75 - 150
Eugenia	<i>Eugenia myrtifolia</i>	1.0 - 2.5	30 - 75
Euonymus	<i>Euonymus</i> spp.	2.5 - 3.5	75 - 105
Ficus	<i>Fiscus</i> spp.	2.5 - 5.0	75 - 150
Firebush	<i>Hamelia patens</i>	2.5 - 5.0	75 - 150
Firecracker Plant	<i>Russelia equisetiformis</i>	2.5 - 5.0	75 - 150
Forsythia	<i>Forsythia</i> spp.	1.0 - 1.7	30 - 50
Hibiscus	<i>Hibiscus</i> spp.	0.5 - 1.0	15 - 30
Holly	<i>Ilex</i> spp.	2.5 - 5.0	75 - 150
Honeylocust	<i>Gleditsia</i>	1.0 - 2.5	30 - 75
Honeysuckle	<i>Lonicera</i> spp.	0.5 - 1.0	15 - 30
Ice Plant	<i>Delosperma</i> spp.	0.5 - 1.0	15 - 30
Indian Hawthorne	<i>Raphiolepis indica</i>	2.5 - 5.0	75 - 150
Itea	<i>Itea virginiana</i>	0.5	15
Ixora	<i>Ixora coccinia</i>	2.5 - 5.0	75 - 150
Jasmine (Asiatic)	<i>Trachelospermum asiaticum</i>	1.0 - 3.5	30 - 105
Juniper	<i>Juniperus</i> spp.	2.5 - 5.0	75 - 150
Lantana	<i>Lantana camara</i>	1.0 - 2.5	30 - 75

**Foliar Spray Application Rate Ranges for Diluted Mixture of Shortstop® 2SC for treatment of Various Shrub Species.**

Plant Name	Scientific Name	Rate per Gallon of Spray Solution	
		fl. oz.	ml
Lilac	<i>Syringa</i> spp.	0.5 -2.5	15 - 75
Loropetalum	<i>Loropetalum chinensis</i>	0.5 -2.5	15 - 75
Manhattan Euonymus	<i>Euonymus kiautschovicus</i> "Manhattan"	2.5 - 5.0	75 - 150
Ninebark	<i>Physocarpus</i> spp.	0.5 - 1.0	15 - 30
Oleander	<i>Nerium</i> spp.	1.0 - 2.5	30 - 75
Orange Jasmine	<i>Murraya paniculata</i>	0.5 - 3.5	15 - 105
Photinia	<i>Photinia fraseri</i>	2.5 - 5.0	75 - 150
Pittosporum	<i>Pittosporum</i> spp.	2.5 - 5.0	75 - 150
Plumbago	<i>Plumbago auriculata</i>	1.0 - 5.0	30 - 150
Podocarpus	<i>Podocarpus</i> spp.	1.0 - 2.5	30 - 75
Privet	<i>Ligustrum</i> spp.	2.5 - 5.0	75 - 150
Pyracantha	<i>Pyracantha</i> spp.	2.5 - 3.5	75 - 105
Rhaphiolepis	<i>Rhaphiolepis indica</i>	1.0 - 5.0	30 - 150
Rhododendron	<i>Rhododendron</i> spp.	0.5 - 2.5	15 - 75
Rose	<i>Rosa</i> spp.	1.0 - 3.5	30 - 105
Rose of Sharon	<i>Hibiscus syriacus</i>	0.5 - 1.0	15 - 30
Schefflera	<i>Schefflera arboricola</i>	2.5 - 5.0	75 - 150
Serviceberry	<i>Amelanchier</i> spp.	0.5 - 1.0	15 - 30
Spirea	<i>Spirea</i> spp.	0.5 - 1.0	15 - 30
Surinam Cherry	<i>Eugenia uniflora</i>	1.0 - 2.5	30 - 75
Trifoliolate Orange	<i>Poncirus trifoliata</i>	2.5 - 5.0	75 - 150
Viburnum	<i>Viburnum</i> spp.	1.0 - 5.0	30 - 150
Weigela	<i>Weigela florida</i>	0.5 - 1.0	15 - 30
Winter Jasmine	<i>Jasminum nudiflorum</i>	2.5 - 3.5	75 - 105
Yew	<i>Taxus</i> spp.	2.5 - 5.0	75 - 150

**Plant Foliar Sprays**

- To minimize regrowth after pruning make applications within two weeks following pruning.
- Pruning after applications have been made can remove the product from the plant and decrease the amount of growth reduction.
- Use a non-ionic surfactant for best results. Always read and follow all cautionary statements and other information appearing on the surfactant label.
- Maintain agitation in the spray tank to ensure uniform distribution within the spray solution.
- Apply the foliar spray using a medium-coarse spray until spray solution begins to drip from all plant surfaces. Ensure that all inner stems are thoroughly covered.
- Wait at least 8 weeks between treatments.
- In outdoor commercial ornamental and nursery uses, follow foliar applications of Shortstop® 2SC with irrigation within 24 hours to remove product from foliage and limit surface movement. If overhead irrigation is not available, time treatment applications to allow Shortstop® 2SC to dry on the treated surface prior to rainfall.
- To limit unwanted surface runoff in outdoor ornamental uses, do not apply when growth media is saturated.

- The rates in Tables 2 and 3 are guidelines as some species may respond more or less to Shortstop® 2SC. Efficacy may also vary depending on weather conditions, geographic conditions and other biological factors. Treat a small number of plants prior to determining specific application rates for different species under actual use conditions. Use the higher rates when treating subtropical plants growing in locations with longer growing seasons.
- Foliar sprays at higher dosage rates may leave a white residue on the plant foliage. Take precautions when treating around sidewalks, driveways, buildings, decks, fences, vehicles or other structural surfaces as staining may occur. Wash immediately with water if product comes into contact with these surfaces.
- Take precaution to minimize application to non-target plants that come in contact with Shortstop® 2SC.
- Avoid pruning following application in order to not remove the terminal shoots of the treated plant. However, certain species may require light pruning to remove unregulated shoots and maintain shape and form.

### **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth or synthetic absorbent. Remove to chemical waste area.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA Regional Office for guidance.

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

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It is impossible to eliminate all risks associated with this Product. Plant injury, lack of performance, or other



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