

**S A SOUTHERN**  
**5 0 AG®**

# SA-20 DISINFECTANT

**Deodorizer - Fungicide - Mildewstat -  
Greenhouse Disinfectant for Orchids & Ornamentals**

**ACTIVE INGREDIENTS:**

Alkyl (C<sub>14</sub> 60%, C<sub>16</sub> 30%, C<sub>12</sub> 5%, C<sub>18</sub> 5%)  
dimethyl benzyl ammonium chloride..... 10.0%  
Alkyl (C<sub>12</sub> 68%, C<sub>14</sub> 32%)  
dimethyl ethylbenzyl ammonium chloride... 10.0%

**INERT INGREDIENTS:** ..... 80.0%

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

**KEEP OUT OF REACH OF CHILDREN**

**DANGER-PELIGRO**

PELIGRO: SI NO PUEDE LEER EN INGLES, PREGUNTE A  
SU SUPERVISOR SOBRE LAS INSTRUCCIONES DE USO  
APROPIADAS ANTES DE TRABAJAR CON ESTE  
PRODUCTO.

**First Aid**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**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

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

See inside of label for additional Precautionary Statements and Directions for Use.

Follow directions on side of label to open.

Distributed By: **Southern Agricultural Insecticides, Inc.**

PALMETTO, FL. 34220

HENDERSONVILLE, N.C. 28793

BOONE, N.C. 28607

EPA Reg. No. 10324-94-829

J1

EPA Est. No. 829-FL-1

**Net Contents Liquid: 1 Gallon (3.785 liters)**



## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER. Keep Out of Reach of Children.** Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if absorbed through the skin. Do not get into eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT:** Applicators and other handlers must wear coveralls worn over long-sleeved shirt and long pants, waterproof gloves, chemical-resistant footwear and socks, protective eyewear, chemical-resistant headgear when using this product for algae control in overhead watering system and chemical-resistant apron when mixing, loading or cleaning equipment. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. 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. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.  
Do not mix with oxidizers, anionic soaps and detergents.

#### **Agriculture Use Requirements:**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40CFR170. 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). The requirements in this section 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 4 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 worn over long sleeved shirt and long pants, waterproof gloves, chemical-resistant shoes plus socks, and protective eyewear.

**Non-Agricultural Use Requirements:**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40CFR170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.  
Keep unprotected persons, children, pets and others out of treated areas until sprays have dried.

**STORAGE AND DISPOSAL**

Store in original container in areas inaccessible to small children. Do not store on side. Avoid creasing or impacting of side walls. Do not reuse empty container. Wrap and discard in trash (or recycle).

**DIRECTIONS FOR USE  
HORTICULTURAL AND ORNAMENTAL PLANT**

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.

Treatment is restricted to indoor uses or uses in which controlled conditions to prevent runoff and exposure to the environment. In the case of diseased trees, the spot treatment of trees must be at least 100 feet from any ponds, lake, stream, or river to prevent possible runoff of the product into the waterway. **Do Not Apply by Aerial Spray.**

**COMMERCIAL FLORIST USE DIRECTIONS :** To clean, disinfect and deodorize hard, non-porous surfaces in one step, prepare use solution by adding 1½ ounces per 5 gallons of water (469 ppm active). For heavy-duty use, add 6 ounces per 5 gallons of water (1,875 ppm active).

Remove all leaves, petals, garbage and refuse. Pre-clean surfaces using pressurized water where possible. Apply Use solution to hard non-porous surfaces, thoroughly wetting surfaces as recommended and required, with a cloth, mop, brush, sponge or sprayer.

For heavily soiled areas, a preliminary cleaning is required.

For sprayer applications, use a coarse pump or trigger sprayer. Spray 6-8 inches from surface. Rub with brush, sponge or cloth. Do not breathe spray.

Treated surfaces must remain wet for 10 minutes. Allow to air dry.

Prepare a fresh solution at least daily or sooner if use solution becomes visibly dirty.

**CHEMIGATION:** Do not apply this product through any type of irrigation system except when used to control algae in nozzles as directed on this label.

**GENERAL INFORMATION:** This product is a general disinfectant. It will help in the control of fungal, bacterial and viral plant pathogens, bacterial and fungal leaf rots, slime forming fungi, and odor causing bacteria and algae. It is designed specifically for greenhouse use where cross contamination may occur between plants. Pre-clean all surfaces prior to application of the disinfectant solution. All inanimate surfaces must be thoroughly wetted and remain wet for 10 minutes for disinfection. Then wipe up excess or allow to air dry. Fresh solution must be prepared daily and when use solution becomes visibly dirty. To apply solutions for sprayer applications, use as a coarse spray only.

### DISINFECTING

**Work Areas and Benches:** Spray or swab working surface with a solution of 1 tbsp per 1 gallon of water for 10 minutes before each work period and again after each plant is completed to help control transfer of diseases such as *Botrytis*, crown rot, downy mildew, *Erwinia*, *Phalaenopsis* and root rot. To apply solutions for sprayer applications, use as a coarse spray only.

**Pots, Flats and Flower Buckets:** Brush or wash used pots and flats, then soak in a solution of 1 tbsp per 1gallon of water for 10 minutes to help control transfer of diseases such as anthracnose, blight, *Botrytis*, crown rot, *Erwinia*, mildew, *Phalaenopsis*, root rot, and rust.

**Cutting Tools:** Soak cutting edge of tool for 10 minutes in a solution of 1 tbsp per 1gallon of water) before use to help control transfer of diseases such as *Botrytis*, *Erwinia*, *Phalaenopsis*, root and stem rots, and Tobacco Mosaic Virus (TMV). Dry and oil tools at the end of each workday.

### ALGAE CONTROL

When used as directed, this product is effective against algae. With a little experience, you will quickly recognize algae contamination as it starts. Algae should be killed immediately! Remember – algae can double or quadruple in growth every day. Algae are generally dead when it does not feel slick to the touch and the color has changed. However, algae do not always change color when killed.

**Greenhouse Glass:** Spray or swab surface with a solutions of 1 tsp. of this product per gallon of water. Allow to air dry. Wash off dead algae with water. Spray clean surface again with the solution. Do not rinse. To apply solutions for sprayer applications, use as a coarse spray only.

**House Plants:** To control algae and cross contamination in terrariums, bubbles, etc., wipe inside of glass with a solution of ¼ tsp. of this product per quart of water. Lightly spray plants with same solution.

**Walkways:** For heavy infestations, spray or swab surface with a solution of 1 tbsp. of this product per gallon of water. Let stand for an hour or more then brush and wash away dead algae. Soak area again with the solution. Do not rinse. This product will inhibit the growth of algae on walkways. Allow to dry on the surface and repeat application when algae growth returns. To apply solutions for sprayer applications, use as a coarse spray only.

**Bird Baths:** DO NOT use when fish are present. Clean to remove algae growth prior to filling birdbath and spray the exposed surface with a solution of 1 tbsp. of this product per gallon of water. Allow to air dry and brush off dead algae.

### TREATMENT OF LAWNS, GOLF COURSES (GREENS AND TEES ONLY) AND COMMERCIAL TURF

To control fungal diseases (including dollar spot, fusarium blight and leaf spot, brown patch, fading out, Southern blight, pythium blight, rust, toad stools and fairy rings and algal buildup in turf grasses, including lawns of Grass or Dichondra, spray a solution of one tbsp. of this product per gallon of water. Treat at the rate of one gallon of solution to 40 square feet (4 ft x 10 ft.) of lawn. Treat entire lawn to prevent spread of infection or at least one foot beyond the edges of isolated diseased areas. Saturate the entire treatment area, wetting all plant and soil surfaces. Repeat spray application every 10 to 14 days as needed to control new or established disease conditions. Treatment is required during the warm growing season and must be made when the lawn is dry or damp, but not during wet rainy weather.

For golf courses: greens and tees only, and commercial turf applications, follow the use directions above. If commercial power sprays are used, reduce spray concentration to 1 tsp. per gallon of water (or one pint to 50 to 100 gallons of spray mixture to treat 10,000 sq. ft. or 1/4 acre).

(Treatment of Lawns, Golf Courses (Greens and Tees Only and Commercial Turf continued)

Do not graze treated areas or feed clippings to livestock. Do not exceed 25 gallons per 1000 sq. ft. Do not exceed treatment of 10 acres (2000 gallons) with retreatment at 10 day intervals not to exceed 6 treatments per year.

### MOSQUITO CONTROL

This product is not intended to be used for broadcast mosquitocide applications but rather is limited to small residential ponds, decorative ponds, and similar areas. This product is not to be used in waterways connected to larger watersheds or in waters that serve as natural habitats for aquatic and amphibious organisms. This product controls mosquitoes where they breed (fountains, water displays, decorative pools, decorative ponds, and standing water in old tires, empty tin cans, barrels, puddles, and water drains around buildings). Do not exceed 10 applications at a minimum of 10-day intervals per year. Note: Spray from fountains treated with this product will not harm poolside plantings. DO NOT use when fish or other wildlife (for example, amphibians) are present.

When used as directed, this product is effective as an ovicidal, larvicidal, pupacidal control of aedes aegypti (Yellow fever carrier) and Culex nigripalpus (carrier of various diseases of man and animal, such as heartworm and Hepatitis) mosquitos. This product will also reduce larval populations of Anopheles quadrimaculatus (Malaria carrier) mosquitos.

#### INITIAL DOSAGE

This product		Per Unit water for 200 ppm*	
Metric	US	Metric	US
3.8 cc	0.13 oz.	3.78 L	1 gal.
38.0 cc	1.28 oz.	37.85 L	10 gal.
380 cc	12.8 oz.	378.5 L	100 gal.
3785.0 cc	1.0 gal.	3.75 KL	1,000 gal.

Treat Water by "dribbling" this product solution around the edges of the site to be treated. Where a spray rig is available – it may be used to apply the use solution – instead of the hand dribbling method.

#### WEEKLY MAINTENANCE

This product		Per Unit water for 100 ppm*	
Metric	US	Metric	US
1.9 cc	0.065 oz.	3.78 L	1 gal.
19.0 cc	0.64 oz.	37.85 L	10 gal.
190 cc	6.4 oz.	378.5 L	100 gal.
1892.5 cc	64 oz.	3.75 KL	1,000 gal.

Each week repeat maintenance dosage or add this product using a test kit to maintain the proper concentration.

\*ppm – parts per million active ingredient

### OTHER USES

**Overhead Watering Systems:** During the last 2-3 minutes of watering use 2 tablespoons of this product per 20 gallons of water as a control program. Due to variations of growing conditions, use every second to fourth watering. Will control algae in nozzles.

**Evaporative Cooler:** Controls algae, slime forming fungi on cooler pads and certain fungal plant pathogens that may carry over in the cooler as well as bacterial odors. Use 1 teaspoon of this product per 15 gallons of water every other week.

**NOTE:** Not all varieties or strains of plants listed have been tested. Unintentional consequences such as crop injury or ineffectiveness may result because of certain environmental or growing conditions, manner of use or applications, and insect resistance. Therefore, before treating a large number of plants, spray a few plants and observe for plant damage and for performance prior to full-scale application. All risks shall be assumed by the user.

### ORCHIDS

Species	Diseases Controlled	Rate/Gal of water	Additional Information
Seedlings	Damping-off (caused by Pythium, Fusarium, or Rhizopus)	1.5 tsp.	From flask, soak seedling in solution for 2-5 minutes before potting to remove agar. Spray seedlings once a month as preventative maintenance. Spray any time disease is evident with solution.
Dividing plants		1 tbsp.	Remove compost then soak plant for 2-5 minutes in solution. Operate with wet hands and cutting tools (see Disinfecting). After division and root trim, soak divisions in solution for 2 to 5 minutes. Pot in compost drenched with solution.
Adult Plants		2 tsp.	Spray any time disease, other than rot (see Adult Orchid Rots), is evident with solution. Spray once per month as preventative maintenance. Drench compost when fungus is evident.
	Botrytis petal blight	1/3 tsp.	During cool weather, spray plants, flowers and under benches at first sign of spotting on flowers. Normally, weekly sprayings will greatly reduce or eliminate the botrytis spotting.
	Rots (such as <i>Erwiniam</i> , et al)	1 tbsp.	Remove compost from plant, then soak entire plant 10 minutes or more in solution. Cut away all rot with treated tool (see Disinfecting). Soak plant wounds again for 10 minutes in solution. Repeat in drenched compost.
	Crown rot	2 tsp.	Spray plants weekly with solution, assuring coverage around and in base of leaves.

### HORTICULTURAL USAGES

Species	Diseases Controlled	Rate/Gal of water	Additional Information
Bulbs such as Daffodils, Easter lilies, Gladioli, Hyacinth, Iris, Narcissus, Tulips	Fusarium basal rot	1 tbsp.	Prestorage: Treat the corms and bulbs immediately after they are "cleaned" by soaking them for 10 minutes in the solution. Preplant: Treat again immediately before planting.
Cut Flowers in tubes and containers, decorative vases	Bacterial stem plugging (restricts water uptake) Fungi (can create ethylene gas, a cause of petal drop)	1 tsp.	Flower spikes should be hardened in solution during harvesting storage and shipping to help control the transfer of diseases.
Plant Cuttings such as Begonias, Carnations, Chrysanthemums, Fuschias, Geraniums	Carnation rust, Crown gall, Gray mold leaf spots and Powdery mildew	2 tsp.	Soak cuttings 2-5 minutes in the solution. Plant in compost drenched with the solution.
Seedlings	Damping off	2 tsp.	Treat seeds and cuttings before planting by spraying with solution to completely wet all surfaces. Use inert material for planting seeds and cuttings, such as sphagnum moss, vermiculite, perlite, pumice, sterilized commercial mix rather than garden soil. If garden soil must be used, thoroughly saturate with the solution. After planting, water with solution (unless using soil saturated as above) and again after seedlings emerge. Spray weekly as needed.
	Downy mildew	2 tsp.	Spray with solution at 5 day intervals as needed.

**ORNAMENTAL USAGES**

<b>Species</b>	<b>Diseases Controlled</b>	<b>Rate/Gal of water</b>	<b>Additional Information</b>
Aucuba, Dahlia, 3 Geranium, Fuschia, Peony, Piersis	Botrytis	2 tsp.	Spray buds and blooms lightly at first sign of disease, and repeat 2- times per week as needed. Before shipping, dip spikes in solution.
	Downy mildew, Gray mold	2 tsp.	Spray at first sign of disease repeating at 7-14 day intervals. Before shipping, dip spikes in solution.
	Rust	2 tsp.	Spray at 7-14 day intervals during the wet periods starting in early Summer. Before shipping, dip spikes in solution.
Begonias, Ferns, Gesneria	Bud rot, Leaf spots, Gray mold, Shoot rot	1 tsp.	Spray solution before buds open, when blossoms show pink, at ¼ blossom fall, and 2 weeks after petal fall.
Cactus	Bacterial leaf spot, Root rot, Top rot	2 tsp.	Sterilize seeds and disease free cuttings by dipping cuttings in the solution for 5 minutes before planting. Then spray at 10-14 day intervals.
	Slimy collar rot	2 tsp.	Just before planting, dip entire plant in the solution.
Calendulas, China Asters, Chrysanthemum, Dahlias, Lilac, etc.	Powdery mildew	2 tsp.	Spray upper and lower surface of leaves and branches with solution until thoroughly wet. Spray when buds burst in Spring and repeat in 2 weeks. Spray every 2 weeks during the mildew season.
Carnations	Canker rot, Carnation rust, Crown rot, Leaf spot, Root rots, Stem rot	2 tsp.	Spray at first sign of disease and repeat at 7-10 day intervals.
	Gray mold rot	2 tsp.	Spray 1-2 times just before bloom and again as flowers are opening.
Crassula, Kalanchoe, Sedum	Crown gall, Crown rot, Root rot	2 tsp.	Destroy infected plant parts and drench the remainder. Spray plants weekly as needed.
Dogwood	Anthraxnose, Leaf blight, Leaf spots	2 tsp.	Spray 4 times: when flower buds begin to open, as soon as flower bracts have fallen, 4 weeks later, and in late summer after flower buds are well formed. If possible, spray just before rainy period.
Fuschia, Gardenia, Geranium, Heliotrope	Bud rot, Gray mold, Stem rot	2 tsp.	Spray at first sign of disease and repeat weekly as needed.
Hawthorn	Rust	2 tsp.	Begin protective spraying with new leaf formation after winter dormancy but before onset of rainy season. Thoroughly spray undersides of infected leaves.
Hawthorn (Crataegus)	Leaf blights	2 tsp.	Make 3 applications: begin when leaves emerge from buds, when leaves are half grown, and again when fully grown.
Hollyhock	Rust	2 tsp.	Apply at weekly intervals as soon as growth begins. Repeat applications in late Summer.
Iris	Botrytis, Crown rot, Gray mold rot	2 tsp.	Treat all new rhizomes before planting. Submerge rhizomes and 3-4" of leaves in the solution for 30 minutes. Plant at once while still wet with solution.
	Leaf spots	2 tsp.	Spray weekly with solution while leaves are growing.
Ornamental trees (such as Sycamore, Ash, Crape Myrtle, Live Oak, etc.)	Anthraxnose	2 tsp.	Spray upper and under sides of leaves and twigs until thoroughly wet. A large tree requires 50-60 gallons of spray per treatment for adequate coverage. Make 3 applications: when buds start to swell in the spring, as leaves start to expand, and when leaves are about ¾ grown.
	Powdery Mildew	2 tsp.	Spray upper and lower surface of leaves and branches with solution until thoroughly wet at bud break and again in April. Apply 50-60 gallons of spray per tree for adequate coverage.

**ORNAMENTAL USAGES Continued**

<b>Species</b>	<b>Diseases Controlled</b>	<b>Rate/Gal of water</b>	<b>Additional Information</b>
Palms	Heart rot, Penicillium, leaf base rot	2 tsp.	At first sign of rot, completely fill cup or "heart" formed by the palm branches at top center of the plant. Repeat every 7 days as needed.
Roses	Black spots, Powdery mildew, Rusts, Stem gall	2 tsp.	When symptoms appear, spray upper and lower surface of leaves and branches with solution until thoroughly wet. Apply at 7-10 day intervals as needed.
	Brown Canker	2 tsp.	Begin spray applications in early spring when new growth starts and repeat weekly until plant is dormant.
Rubber Plant	Anthracoise, Crown gall	1 tsp.	Spray plant at first sign of disease and repeat weekly as needed.
Saintpaulias (African Violets)	Bud rot, Crown rot, Downy mildew, Gray mold rot (Botrytis), Powdery mildew, Root rot	¼ tsp.	Dip entire plant and pot in the solution for 5 minutes. Thereafter, spray every 10 days as needed.
Snapdragons	Anthracoise, Downy mildew, <i>Phyllosticta</i> blight, Powdery mildew, Stem rot, Wilt	2 tsp.	When symptoms appear, spray upper and lower sides of leaves until thoroughly wet. Repeat every 7-10 days as needed. Collect and burn tops in the fall.
	Rust	2 tsp.	Apply at 7-10 day intervals as soon as plants are set out. Collect and burn tops in the Fall.

If any part of this label is missing or for assistance you may contact us via our website at [www.southernag.com](http://www.southernag.com)