



Certified by
ASCO

SNS 209™

All Natural

Systemic Pesticide

Application & Use Guide

Ingredients:

Active Ingredients	10.23%
Rosemary Extract	10.00%
Rosemary Oil	0.23%
Other Ingredients	89.77%
<i>Purified Water, Humic Acid & Quillaja Saponaria (wetting agent)</i>	
Total	100.00%

This product has not been registered by the United States Environmental Protection Agency. Sierra Natural Science Inc. represents that this product qualifies for exemption from registration under the Federal Insecticide, Fungicide and Rodenticide Act. (FIFRA)

Title 25b Pesticide

RE Entry Time (REI) 0

What it does:

SNS-209™ provides a barrier for plants to protect them against damaging insects. The SNS-209™ barrier is harmless to the plant but distasteful to Aphids, Mites, other insects and some molds.

SNS-209™ Systemic Insect Control is made up of 100% pure botanical extracts that are highly water soluble. The botanical extracts are all food grade GRAS (generally recognized as safe) materials.

SNS-209™ Systemic Insect Control is exempt from EPA registration under minimum risk pesticide exempted under FIFRA section 25(b) and has a zero restricted entry interval (REI) = 0.

How it Works:

Spider mites, White flies, Nematodes, Scales and other insects destroy plant cells by sucking out their fluids or chewing up the cell walls. SNS-209™'s unique formula works by allowing the plant to uptake a small amount of rosmarinic acid and rosmarinic acid from the rosemary plant extract. As the plant distributes the rosmarinic acid and rosmarinic acid throughout its cell walls, a barrier is soon constructed. When an insect starts to suck or chew on the plant it comes in contact with the rosmarinic acid and rosmarinic acid which causes the insect to stop eating, move on or dehydrate and die.

Advantages:

The first advantage is long term control. A foliar application of an insecticide is constantly exposed to the elements. Rainfall, irrigation and sunlight all play a part in the dilution of the insecticide. A systemic product is protected by the elements because it remains inside the plant's leaves, stems or blades.

The second advantage of systemic insecticides over conventional insecticides is that the entire plant is protected from attack by insects, grubs, mites. Root systems, stems and leaf portions of the plant all contain a small amount of SNS-209™, not just the leaf surface. The third advantage drip irrigation may be used which reduces overall pesticide amount needed and reduces costs. SNS-209™ may be applied with other fertilizers, fungicides and other pesticides but please perform a jar test for compatibility.

Mixing:

Fill the spray tank to at least half the desired amount with clean water and commence agitation. Add the required quantity of SNS-209™ Natural Systemic Pesticide directly to the water and complete filling to the final volume. Continue agitation. Do not make a slurry or paste prior to adding to the tank.

Application:

Directions for Use: Shake Well Before Use

Soil Drench Potted Plants - Plant Site Use For All Plants & Turf (Roots), Coverage = One gallon of mixed solution to one 5 gallon potted plant or 115 square feet. Mix 1/2 Tablespoon (8 mL) of concentrate to 1 gallon (3.79L) of water. Mix well. Gently feed SNS-209™ solution directly onto the root area of the plants every time you water or fertilize for a minimum 5 consecutive watering's (may be added to reservoir) or until infestation reduces. **Repeat after two weeks or if infestation returns.** Thoroughly drench to contact as much of the root area as possible. It takes about 1-2 weeks for SNS 209™ to start working dependent on temperature, humidity and should continue to work for up to 3 weeks.

Soil Drench (Drip Irrigation) Row Crops - Plant Site Use For All Plants & Turf (Roots), Coverage = One Acre. Use 2-6 Quarts of SNS 209™ Concentrate per 1 acre. Mix well. Gently feed SNS-209™ solution directly onto the root area of the plants every time you water or fertilize for a minimum 5 consecutive watering's (may be added to reservoir or nutrients mix tank) or until infestation reduces. **Repeat after two weeks or if infestation returns.** Thoroughly drench to contact as much of the root area as possible. It takes about 3-5 days for SNS 209™ to start working dependent on temperature, humidity and should continue to work for up to 3 weeks.

Foliar Spray - Plant Site Use For All Plants & Turf (Leaves (Foliage), Stems, Stalk, Fruit and around Flowers), Coverage = 1 gallon of mixed solution will cover approximately 550 square feet, No restricted entry interval (REI)=0. Mix 2 Tablespoon (32 mL) of concentrate to 1 gallon (3.79L) of water (**54 ounces of SNS 209™ per 50 gallons of water per acre**). Spray every 3-4 days for up to 21 days (5 to 7 times). It takes about 2-3 days (1 to 2 weeks for potted plants) after applying to start working and will continue to work for up to 3 weeks. Reapply every 14-28 days as needed. Mixed solution may be stored for up to two weeks or used immediately. For best results use warm (70 degree) Distilled or "Chlorine Free" Water with the least amount of salts the better absorption of SNS-209™.

GENERAL: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower/treatment coordinator are responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they should be observed. Application is designed to be compatible with materials presently applied to various crops, as well as the timing of the applications. Application and mixing should be made using appropriate spray equipment and sufficient water to provide adequate penetration and coverage. Equipment settings and water volume may need to vary, depending on the growth stage of the crop and the crop type.

GROUND: Be sure to maintain agitation during mixing and application to assure uniform product suspension. Thorough coverage of all foliage is essential for effective SNS-209™ Natural Systemic Pesticide application which can be applied by commonly used ground equipment, hose-end, pressurized, greenhouse and hand-held sprayers. To achieve good coverage, use proper spray pressure, gallon per acre, nozzles, nozzle spacing and ground speed. Consult spray nozzle and accessory catalogues for specific information on proper equipment calibration.

AERIAL: This product can be applied by aerial application. Refer to the Aerial Drift Reduction Advisory Information section of this product application guide for general directions and precautions. Use the application rate indicated with sufficient water to achieve thorough coverage, **typically 10 to 20 ounces of SNS-209™ Natural Systemic Pesticide to 20 gallons** of water per acre.

AERIAL DRIFT REDUCTION ADVISORY INFORMATION

GENERAL: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed.

Crop Safety:

SNS-209™ Natural Systemic Pesticide has been used on a wide range of plant species without damage, up to 4x concentration. However, some species and varieties are particularly sensitive to chemical products. It is advisable to treat only a small number of plants first, in order to determine their reaction to the product, before large scale use. Contact Sierra Natural Science for further information on plant toxicity.

Compatibility:

This product may be combined in the spray tank with various other plant protection products with limited restriction or high pH products. Always mix SNS-209™ Natural Systemic Pesticide first in the mix tank, followed by the other components. With all mixtures, constantly agitate prior to and during application. A jar test should always be performed prior to mixing with other chemicals.

Ecological Information:

ENVIRONMENTAL DATA: CAUTION! Floor and other surfaces may be slippery. Ventilate area of leak or spill. Wear appropriate personal protective equipment. Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. G., Vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

ENVIRONMENTAL TOXICITY: No information found.

Storage and Disposal:

Protect container from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids); observe all warnings and precautions listed for the product. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Dispose of container and unused contents in accordance with federal, state and local requirements.

Safety Instructions:

May irritate the eyes. Avoid contact with eyes and skin. Avoid inhaling dust or spray mist. Wash hands after use.

First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air in all cases call a physician immediately.

Material Data Safety Sheet:

Additional information is listed in the Material Safety Data Sheet-SDS, which can be obtained from Sierra Natural Science Inc.

Exclusion of Liability:

This product must be used strictly as directed, and in accordance with all instructions appearing on the label and in other reference material. Sierra Natural Science accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

Crop	SNS 209 AG Foliar Spray Rate/Amount	SNS 209 AG Drip Feed Rate/Amount	Gallons per Acre	Frequency	Timing	Pest
Lettuce Chicory/Endive Artichoke Sunflower Safflower Spinach Swiss Chard Sugar beet Wasabi Eggplant Pepper Potato Tomato Paprika	50 oz per 50 gallons	1/2 oz per gallon	50 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Leaf Miner, Mites, Thrips, Root Aphids, Cutworms & Mildew
Shallot Garlic Chives Leek Cucumber Honeydew melon Cantaloupe Watermelon Pumpkin Squash Zucchini	60 oz per 50 gallons	1/3 oz per gallon	50 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Leaf Miner, Mites, Cabbage Looper & Rust
Alfalfa Lentil Peanut Bean Soybean Clover Lupin Pea Corn Oats Rice Rye Sorghum Barley Wheat Mallet Sugarcane	60 oz per 50 gallons	1/3 oz per gallon	50 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Leaf Miner & Mites,

Crop	SNS 209 AG Foliar Spray Rate/Amount	SNS 209 AG Drip Feed Rate/Amount	Gallons per Acre	Frequency	Timing	Pest
Onion Broccoli Brussel Sprouts Cauliflower Cabbage Collard Greens Horseradish Mustard Kale Kohlrabi Radish Cress Rutabaga Bok choy Chinese Cabbage Watercress Turnip	50 oz per 50 gallons	1/4 oz per gallon	50 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Leaf Miner, Cabbage Looper, Cutworm & Mites
Strawberry Caneberry Blueberry	60oz per 100 gallons	1/3 oz per gallon	100 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Leaf Miner, Root Weevils. Mites & Mildew
Carrot Celery Fennel Dill Parsley Parsnip Cumin Coriander/Cilantro Caraway	60 oz per 50 gallons	1/3 oz per gallon	50 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Leaf Miner & Mites
Apple Pear	60oz per 100 gallons	1/2 oz per gallon	100 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Fruit Moth & Mites
Potted Plants Flowers Cannibis Roses Vegetables Poppies Hose Plants	1oz per 1 gallon	1/4 oz per gallon	1 gallon Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Fruit Moth & Mites, Mildew

Crop	SNS 209 AG Foliar Spray Rate/Amount	SNS 209 AG Drip Feed Rate/Amount	Gallons per Acre	Frequency	Timing	Pest
Almond Walnut	60oz per 100 gallons	1/3 oz per gallon	100 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Fruit Moth & Mites
Citrus	60oz per 100 gallons	1/2 oz per gallon	100 gallons Foliar Spray	5 to 7 consecutive times then stop until pest pressure increases then repeat	May be used up to day of harvest Immediate entry	Aphids, White Flies, Fruit Moth & Mites, Mildew

Other reFresh Products



reFresh™ (F)
for Vegetables



reFresh™
Food Grade
Natural Fungicide/
Pesticide
with Tank Treatment



reFresh™ (C)
Post Harvest

Sierra Natural Science Agricultural Products



Questions or Comments?

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