

CedarCure™

CedarCure™ is a minimum risk pesticide compliant with the USDA National Organic Program. CedarCure™ is used as a drench in turf to control insect infestations.

Turf: White Grubs, Mole Crickets, Ants, Armyworms, Billbugs, Chinch bugs, Crickets, Cutworms, Earwigs, European crane Flies, Grasshoppers, Leafhoppers, Millipedes, Pillbugs, Sowbugs, Sod Webworms, Ticks and other turf pests.

DO NOT apply when temperatures exceed 85° F or when soil is dry or turf or plants are suffering from moisture stress, do not apply during heat of the day. Apply every 3-5 weeks or as needed.

Directions: Low rate: Mix 8 ounces CedarCure with 100 gallons of water. High rate: Mix 16 ounces CedarCure with 100 gallons of water. Mix will treat 50,000 sq ft. Apply mix at 2 gallons per 1000 sq ft. Water application into soil profile. A second application may be necessary for species that have multiple generations.

Note: This product has not been registered by the EPA. ICT Organics represents that this qualifies for exemption from registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Volume: 16 oz
Part # 90-5010-01

Manufactured by ICT Organics
11127 Willow Bottom Drive • Columbia, MD 21944
Phone 410-997-5450 • www.ictorganics.com



MSDS - CedarCure

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910 1200. Standard must be consulted for specific requirements.

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (as Used on Label and List)
ICT Organics CedarCure

Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's name ICT Organics	Emergency Telephone Number 866-997-5450
Address (Number, Street, City, State and ZIP Code) 11127 Willow Bottom Drive	Telephone Number for Information 410-997-5450
Columbia, MD 21044	Date Prepared March 3, 2010
	Signature of Preparer (optional) N/A

Section II—Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
Cedarwood Oil	CAS:8000-27-9			76.5%

Section III—Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H ₂ O = 1)	0.940 at 20C
Vapor Pressure (mm Hg)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	>1
Solubility in Water	Soluble		
Appearance and Odor	dark yellow to brown in color, Cedar odor		

Section IV—Fire and Explosion Hazard Data

Flash Point (Method Used)	111 C (OC)	Flammable Limits	LEL	UEL
Extinguishing Media	Use dry chemical, CO2 or appropriate foam			
Special Fire Fighting Procedures:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.			
Unusual Fire and Explosion Hazards:	Do not mix with oxidizing agents			

Section V—Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	
Incompatibility (<i>Materials to Avoid</i>) Strong acids or alkali and strong oxidizers			
Hazardous Decomposition or Byproducts Carbon Dioxide, carbon monoxide, smoke, fumes and unburned hydrocarbons and terpenes			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI—Health Hazard Data

Route(s) of Entry	Inhalation? Unlikely	Skin? Unlikely	Ingestion? Unlikely
Health Hazards (<i>Acute and Chronic</i>) Prolonged exposure may cause skin irritation, eye / nasal irritation, dizziness, headache, or nausea. State of California requires any product containing more than 8.5% or more of Rosemary to at minimum bear the signal word "Caution," the phrase "keep out of reach of children," and a requirement for protective eyewear and gloves.			
Carcinogenicity No	NTP? No	IARC Monographs? No	OSHA Regulated? No
Signs and Symptoms of Exposure Eye irritation, dry and or itchy skin			
Medical Conditions Generally Aggravated by Exposure NONE			
Emergency and First Aid Procedures Ingestion: Rinse mouth with plenty of water. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek medical care if feeling sick or nauseous. Skin Contact: Wash with soap and water. Eye contact: Flush with water for 15 minutes. Get medical attention if irritation persists. Inhalation: Remove person to fresh air.			

Section VII—Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled	
Absorb liquid with an inert absorbant and dispose of material and empty container in accordance with local regulations.	
Waste Disposal Method	
If product cannot be disposed of according to use directions on label, dispose of in accordance With local, state and federal regulations	
Precautions to Be Taken in Handling and Storing Store in a cool dry area, Keep container closed when not in use. Keep out of the reach of children. Do not smoke or eat in the product storage area.	
Other Precautions	

Section VII—Control Measures

Respiratory Protection (<i>Specify Type</i>) If Mist or dust conditions are present use respirator approved by NIOSH			
Ventilation	Local Exhaust	adequate fresh air	Special NONE
	Mechanical (<i>General</i>)	adequate fresh air	Other NONE
Protective Gloves	Gloves should be worn when handling or applying	Eye Protection	Eye protection is recommended when spraying
Other Protective Clothing or Equipment Adequate clothing should be worn to prevent prolonged skin contact			
Work/Hygienic Practices Long sleeve shirts, long pant leg trousers. Have clean water available for eye or skin wash			

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
 MSDS No: 007444A
 Date-Revised: 02/03/2010
 Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PyGanic® Crop Protection EC 5.0 ii
PRODUCT DESCRIPTION: An Insecticide for Organic Crop Protection
PRODUCT CODE: 007444A, EPA REG. NO. : 1021-1772
ACTIVE INGREDIENT(S): Pyrethrins

MANUFACTURER

McLaughlin Gormley King Company
 8810 10th Avenue North
 Minneapolis, MN 55427
Product Stewardship: (888) 740-8712
Alternate Emergency Phone: (952) 852-9509
Service Number: (763) 544-0341
Alternate Customer Service: (800) 645-6466

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC U.S. and CANADA:(800) 424-9300
CHEMTREC All Other Areas:(703) 527-3887
Emergency Phone:(888) 740-8712

COMMENTS: MGK® Hours of operation are 8:00 am to 4:30 pm CST, 14:00 to 22:30 GMT.

For information regarding MEDICAL EMERGENCIES or PESTICIDE INCIDENTS, call 24 hours a day at 1-888-740-8712.

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: CAUTION. Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, and clothing.

Applicators and other handlers must wear: Coveralls over a short-sleeved shirt and short pants. Chemical-resistant gloves, such as, Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton. Chemical-resistant footwear plus socks. Chemical-resistant headgear for overhead exposure. A chemical-resistant apron when cleaning equipment, mixing, or loading.

POTENTIAL HEALTH EFFECTS

EYES: Causes moderate eye irritation.

SKIN: Can cause skin irritation. Can cause a burning or prickling sensation on more sensitive areas (face, eyes, mouth). Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SKIN ABSORPTION: Harmful if absorbed through the skin.

INGESTION: Harmful if swallowed.

INHALATION: Excessive inhalation may be irritating to the respiratory tract.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

CHRONIC EFFECTS: None known.

COMMENTS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Pyrethrins	5	8003-34-7	232-319-8

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
MSDS No: 007444A
Date-Revised: 02/03/2010
Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

COMMENTS: Ingredients not identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

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.

SKIN: 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.

INGESTION: If swallowed, IMMEDIATELY call a poison control center or doctor 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 a doctor. Never give anything by mouth to an unconscious person.

INHALATION: Remove affected 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.

NOTES TO PHYSICIAN: For skin effects, a highly efficient therapeutic agent for pyrethrin exposure is topical application of tocopherol acetate (Vitamin E).

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: > 93.3°C (200°F) TAG Closed Cup

FLAMMABLE CLASS: This product is NOT classified as flammable or combustible by OSHA.

EXTINGUISHING MEDIA: Foam, carbon dioxide or dry chemical.

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions this product may support combustion and may decompose to give off toxic gases such as carbon monoxide, carbon dioxide, and nitrogen oxides.

FIRE FIGHTING PROCEDURES: Treat as an oil fire. Use a full-faced self-contained breathing apparatus along with full protective gear. Keep nearby containers and equipment cool with a water stream.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Absorb with appropriate absorbent such as sand, or vermiculite. Clean spill area of residues and absorbent.

LARGE SPILL: Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Collect product into drums, storage tanks, etc., via drains, pumps, etc. Absorb with appropriate absorbent such as sand or vermiculite. Clean spill area of residues and absorbent.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Contains Pyrethrins, which are toxic to fish and other aquatic invertebrates. Contaminated absorbent and wash water should be disposed of according to local, state, and federal regulations.

7. HANDLING AND STORAGE

HANDLING: Wear coveralls over a short-sleeved shirt and short pants. Wear chemical-resistant gloves, such as, Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton. Wear chemical-resistant footwear plus socks. Wear chemical-resistant headgear for overhead exposure. Wear a chemical-resistant apron when cleaning equipment, mixing, or loading. Do not contaminate water, feed, or food by storage, handling, or disposal. Read and observe all precautions and instructions on the label.

STORAGE: Store in a warm, dry place. Keep container closed. Always store pesticides in the original container. Store

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
 MSDS No: 007444A
 Date-Revised: 02/03/2010
 Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

away from food and pet-food.

KEEP OUT OF REACH OF CHILDREN.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m ³	ppm	mg/m ³
Pyrethrins	TWA		5		5

ENGINEERING CONTROLS: Ventilate treatment area thoroughly before re-entry.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Take prudent precautions to avoid contact with eyes. Wear chemical-resistant headgear for overhead exposure.

SKIN: Wear chemical-resistant gloves such as Barrier Laminate, Neoprene Rubber, Nitrile Rubber, or Viton, and wear protective clothing.

PROTECTIVE CLOTHING: Wear coveralls over a short-sleeved shirt and short pants. Wear chemical-resistant footwear plus socks. Wear a chemical-resistant apron when cleaning equipment, mixing, or loading.

WORK HYGIENIC PRACTICES: DO NOT SMOKE, EAT, OR DRINK, OR APPLY COSMETICS IN WORK AREA!

Wash promptly if skin becomes contaminated. Wash at the end of each work shift and before eating, smoking, or using the toilet.

OTHER USE PRECAUTIONS: 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 the label about personal protective equipment (PPE), and restricted-entry interval. The requirements listed below 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 Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls over a short-sleeved shirt and short pants;

Chemical-resistant gloves, such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton;

Chemical-resistant footwear plus socks; and Chemical-resistant headgear for overhead exposure.

COMMENTS: NON-AGRICULTURAL USE REQUIREMENTS:

The requirements in this section apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR, Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
MSDS No: 007444A
Date-Revised: 02/03/2010
Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

Wear protective clothing when using or handling this product to help avoid exposure to eyes and skin. Eye protection, gloves, a long-sleeved shirt and long-pants are recommended.

Allow spray to dry before allowing adults, children, or pets on treated areas.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid

ODOR: Sweet surfactant odor.

APPEARANCE: Clear, amber-brown colored liquid.

pH: 5.9

Notes: @ 5% in water.

VAPOR DENSITY: Heavier than air.

FREEZING POINT: Not Available

FLASHPOINT AND METHOD: > 93.3°C (200°F) TAG Closed Cup

SOLUBILITY IN WATER: Partially miscible in water.

SPECIFIC GRAVITY: 0.932 (Water = 1) at 20°C (68°F)

VISCOSITY #1: 34.8 CPS at 24°C (75.2°F) Brookfield

(VOC): < 1.000 %

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

CONDITIONS TO AVOID: Not compatible with strong acids or bases. Not compatible with strong oxidizers.

11. TOXICOLOGICAL INFORMATION

ACUTE

DERMAL LD₅₀: > 2000 mg/kg

Notes: Albino rabbit.

ORAL LD₅₀: > 2000 mg/kg

Notes: Albino rat.

INHALATION LC₅₀: The Acute Inhalation LC₅₀ of this material places it in EPA Toxic Category IV.

EYE EFFECTS: Irritation clearing within 48 hours.

SKIN EFFECTS: Slight irritation at 72 hours. Primary Irritation Index = 1.3.

SENSITIZATION: Positive

COMMENTS: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as being carcinogens.

Carcinogenicity/ Oncogenicity - Slightly elevated incidences of benign tumors of the thyroid and liver were seen in rats following lifetime administration of high doses of Pyrethrins. Further detailed scientific studies into the mode of action

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
 MSDS No: 007444A
 Date-Revised: 02/03/2010
 Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

responsible for these effects show that:

- 1) Because of biological species differences, the rat thyroid tumors are not relevant to humans.
- 2) The rat liver tumors occur in animals *only* at doses greatly exceeding human exposure levels and that cause cell proliferation (mitogenesis).

Based on these data, the USEPA has classified Pyrethrins as "Not Likely to be Carcinogenic to Humans," at doses that do not cause a mitogenic response in the liver/ cell proliferation. Thus, Pyrethrins can be considered to be non-carcinogenic at exposure levels relevant to human use of Pyrethrins-containing products.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This pesticide is highly toxic to fish. For terrestrial uses, 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 from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: To avoid wastes, use all material in the container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (NOTE: such programs are often run by state or local governments, or by industry).

EMPTY CONTAINER: Non-refillable container. DO NOT reuse or refill this container.

Triple-rinse container (or equivalent) promptly after emptying. Then, offer for recycling if available, or puncture and dispose of container in a sanitary landfill.

Triple-rinse as follows for containers less than < 5 gallons (< 18.9 L) or less: 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 re-cap. 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.

Pressure-rinse as follows for containers greater than > 5 gallons (> 18.9 L) too large to shake: Empty the remaining contents into application equipment or a mix-tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix-tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 p.s.i. for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

RCRA/EPA WASTE INFORMATION: This product contains the following RCRA/CERCLA Hazardous wastes/substances:

Component, RCRA ID#, CERCLA RQ:
 Pyrethrins, N/A, 1 Lb.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Liquid, N.O.S. RQ (Pyrethrins)

PRIMARY HAZARD CLASS/DIVISION: 9

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
MSDS No: 007444A
Date-Revised: 02/03/2010
Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

UN/NA NUMBER: UN3082

PACKING GROUP: III

REPORTABLE QUANTITY (RQ) UNDER CERCLA: 1 Lb.

OTHER SHIPPING INFORMATION: This material is not regulated as a hazardous material by the DOT in quantities less than 20 Lbs.

Shipping name for quantities less than 20 Lbs.:

Insecticides, Insect or Animal Repellents, Liquid, N.O.S.

AIR (ICAO/IATA)

SHIPPING NAME: Environmentally Hazardous Substance, Liquid, N.O.S. RQ (Pyrethrins)

UN/NA NUMBER: UN3082

PRIMARY HAZARD CLASS/DIVISION: 9

PACKING GROUP: III

VESSEL (IMO/IMDG)

SHIPPING NAME: Not Available

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes

313 REPORTABLE INGREDIENTS: This product contains no SARA Title III Section 313 chemicals that exceed the reporting limits.

302/304 EMERGENCY PLANNING

EMERGENCY PLAN: There are no SARA Title III Section 302 extremely hazardous substances present in this formulation (40 CFR 355).

See Section 13 of this MSDS for the components that are subject to emergency requirements under CERCLA Section 103(a)(40 CFR 302.4).

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All chemical substances found in this product comply with the Toxic Substances Control Act's inventory reporting requirements.

REGULATIONS

STATE REGULATIONS:

VOLATILE ORGANIC COMPOUNDS (VOC):

This product contains less than 1% VOC's.

16. OTHER INFORMATION

REVISION SUMMARY: Revision #: 3. This MSDS replaces the February 03, 2010 MSDS., , Any changes in information are as follows: In Section 4: Firstaid - Ingestion In Section 7: Storage In Section 13: Empty Container, Disposal

MATERIAL SAFETY DATA SHEET



Date Issued: 02/20/2007
MSDS No: 007444A
Date-Revised: 02/03/2010
Revision No: 3

PyGanic® Crop Protection EC 5.0 ii

HMIS RATING

HEALTH:	2
FLAMMABILITY:	1
PHYSICAL HAZARD:	1
PERSONAL PROTECTION:	

HMIS RATINGS NOTES: We assign HMIS ratings to this product based on the hazards of its ingredients(s). Since the customer is most aware of the applications and conditions of use, he or she must ensure that the proper Personal Protective Equipment is provided, consistent with the information contained in Section's 7 and 8 of this MSDS.

COMMENTS: The data contained herein are based on information currently available to McLaughlin Gormley King Company and, to the best of our knowledge, are accurate and based on sound expert opinion. Our statements herein, however, are not to be taken as a warranty or representation for which McLaughlin Gormley King Company assumes legal responsibility.

MSDS Prepared by T. Azzivitto

Crop Protection EC 5.0_{II}

Specimen Label

- Contains pyrethrins—a botanical insecticide derived from chrysanthemums
- Provides rapid knockdown and kill of plant pests
- For use on growing crops and ornamentals
- Can be used on day of harvest
- Kills key livestock pests



ACTIVE INGREDIENT:

Pyrethrins.....	5.00%
OTHER INGREDIENTS	95.00%
	100.00%

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 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 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 Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water), is:

- Coveralls over short-sleeved shirt and short pants;
- Chemical-resistant gloves, such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton;
- Chemical-resistant footwear plus socks; and
- Chemical-resistant headgear for overhead exposure.

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 (40 CFR, Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

Wear protective clothing when using or handling this product to help avoid exposure to eyes and skin. Eye protection, gloves, a long-sleeved shirt and long pants are recommended.

Allow spray to dry before allowing adults, children or pets on treated areas.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.



KEEP OUT OF REACH OF CHILDREN

CAUTION PRECAUCIÓN

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

(If you do not understand the label, find someone to explain it to you in detail.)

INDOOR AREAS for use in and around:

Animal Areas and Quarters	Food Storage Areas	Livestock Barns	Spice Plants
Animal Control Centers	Freight Containers	Livestock Hauling Equipment	Spice Production Facilities
Animal Shelters	Frozen Food Plants	Loafing Sheds	Stables
Barns	Fruit Packing Sheds	Meat Packing Plants	Storage Bins (areas)
Buildings	Garages	Milk Rooms	Storage or Processing Areas that contain Dried Fruit Products
Cabins	Grain Elevators	Milking Parlors	Swine Houses
Canneries	Grain Harvesting and Handling Equipment	Mills	Tobacco Factories
Cattle Barns	Grain Mills	Mushroom Processing Areas	Tobacco Warehouses
Cattle Stalls	Granaries	Peanut Warehouses	Tool Sheds
Circus Tents	Herb Drying and Processing Facilities	Poultry Houses	USDA Inspected Facilities
Commercial Buildings	Herb Warehouses	Poultry Plants	Veterinary Hospitals
Dairies	Homes	Pounds	Warehouses
Dairy Stalls and Holding Areas	Horse Stables and Barns	Rabbit Processing Plants	Wheat Mills
Dog Houses	Horse Trailers	Research Animal Quarters	Wineries
Dwellings	Industrial Installations	Rice Mills	Zoos
Egg Processing Plants	Kennels	Seed Production Facilities	
Factories		Seed Warehouses	
Food Processing Plants			

OUTDOOR AREAS for use in and around:

Back Yards	Exterior of Homes and Other Buildings	Greenhouses	Side Yards
Campgrounds	Fair Grounds	Livestock Pasture	Trees, Shrubs, Flowers and Foliage Plants
Circuses	Feedlots	Manure Piles	Wild Animal Parks
Corrals	Front Yards	Nurseries	Wood Piles
Courtyards	Gardens	Outdoor Growing Crops	Zoos and Other Similar Areas
Dumpsters	Golf Courses	Parks	

For use on:

Beefalo	Ducks	Lambs	Poultry
Birds	Elk	Livestock	Pullets
Buffalo	Emus	Llamas	Quail
Calves	Exotics	Mules	Ratites
Cattle – beef and milking	Geese	Ostrich	Roosters
Chickens	Goats	Oxen	Sheep
Donkeys	Hogs	Pheasants	Swine
	Horses	Ponies	Turkeys

To kill the following insects:

12-spotted Cucumber Beetles	Cross-striped Cabbageworms	Harlequin Bugs	Rice Weevils
Angoumois Grain Moths	Cucumber Beetles	Heliopsis spp.	Saltmarsh Caterpillars
Ants (excluding fire and Pharaoh ants)	Dark Mealworms	Horn Flies	Saw-toothed Grain Beetles
Aphids	Darkling Beetles (lesser meal worm)	Hornworms	Scabies
Apple Maggots	Diamondback Larvae and Moths	House Flies	Sharpshooters
Armored Scales	Dried Fruit Beetles	Imported Cabbageworms	Sheep "Tick" or Ked
Armyworms	Drugstore Beetles	Indian Meal Moths	Shore Flies
Artichoke Plume Moths	Earwigs	Japanese Beetles	Shot Hole Borers
Asparagus Beetles	Eastern Tent Caterpillars	Katydids	Silverfish
Bagworms	Elm Leaf Beetles	Lace Bugs	Skippers
Bean Beetles	Eriophyd Mites	Leaf-footed Plant Bugs	Small Flying Moths
Beet Armyworms	European Pine Tip Moths	Leafhoppers	Soft Scales
Bermuda Grass Mirids	Fire Worms	Leafminers	Southern Chinch Bugs
Billbugs	Flea Beetles	Leafrollers	Sow Bugs
Blister Beetles	Fleas	Leaf-tiers	Spider Beetles
Blow Flies	Forest Tent Caterpillars	Lice	Spiders (excluding brown recluse spiders)
Boll Weevils	Fruit Flies	Loopers	Springtails
Boxelder Bugs	Fruit Tree Leaf Rollers	Lygus	Squash Bugs
Branch and Twig Borers	Fruitworms	Maggots	Stable Flies
Brown Dog Ticks	Fungus Gnats	Mealy Bugs	Stink Bugs
Cabbage Loopers	Garden Symphylan	Mediterranean Flour Moths	Tarnished Plant Bugs
Cabbage Maggots	Glassy Winged Sharpshooters	Mexican Bean Beetles	Thrips
Cadellles	Gnats	Midges	Tobacco Moths
Cankerworms	Grain Mites	Millipedes	Tomato Budworms
Carrot Weevils	Grape Leaf Skeletonizers	Mites	Tomato Bugs
Caterpillars	Grape Leafhoppers	Mole Crickets	Tomato Fruit Worms
Chalcids	Green Bugs	Moths	Tomato Hornworms
Cheese Skippers	Green Fruit Worms	Mushroom Flies	Tomato Pinworms
Cherry Fruit Flies	Green Peach Aphids	Navel Orangeworms	Tomato Russet Mite
Cigarette Beetles	Greenhouse Thrips	Olive Fruit Flies	Tussock Moths
Clover Mites	Grasshoppers	Onion Maggots	Vine Mealy Bugs
Clover Weevils	Greenhouse Thrips	Orange Tortrix	Vinegar Flies
Cockroaches	Gypsy Moths (adults and larvae)	Pacific Flatheaded Borers	Webworms
Codling Moths		Pear Psyllids	Weevils
Colorado Potato Beetles		Pepper Weevils	Western Yellow-striped Armyworms
Confused Flour Beetles		Pink Bollworms	Whiteflies
Corn Earworms		Potato Leafhoppers	Yellow
Crane Flies		Potato Tuberworms	Mealworms
Crickets		Poultry Lice	
		Proba Bugs	
		Psyllids	
		Red Flour Beetles	

GENERAL USE DIRECTIONS

IMPORTANT: It is recommended that the final spray mix be buffered to a pH of 5.5-7.0. Outside of this range pyrethrins can degrade and the product will lose effectiveness.

To avoid possible harm to honey bees and other beneficial insects, it is advisable to apply when the non-target insects are least active.

Pyrethrins degrade rapidly in sunlight. To ensure the best performance, coverage is key. Use spray equipment that will provide the best coverage and direct contact with as many insects as possible.

TANK MIX: This product may be tank mixed with other insecticides, acaricides, fungicides, adjuvants, and wetting agents. This application should conform to accepted use precautions and directions for both products. Tank mix applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be mixed with any product with label prohibitions against such mixing.

Prior to tank mixing, a compatibility test should be conducted using the proper proportions of products and water to ensure the physical compatibility of the mixture.

IMPORTANT NOTE: Plant safety is an important consideration when using insecticides in a greenhouse. However, it is not possible to evaluate the phytotoxicity of PyGanic® Crop Protection EC 5.0_{II} on numerous plant varieties that may react differently to insecticides in different growth stages or under varying environmental conditions. Before making widespread applications of PyGanic® Crop Protection EC 5.0_{II} or tank mix combinations, treat a limited number of plants and observe for phytotoxicity over a 10-day period.

DIRECTIONS FOR APPLICATION THROUGH IRRIGATION SYSTEMS (CHEMIGATION):

Apply this product only through sprinkler (including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for the operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the pump motor stops. The irrigation line or water pump must include a functional pressure valve, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must be a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Constant agitation must be maintained in the chemical supply tank during the entire period of insecticide application. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of more dilute suspension per unit of time.

GROWING CROPS (OUTDOORS AND IN GREENHOUSES AND NURSERIES)

Apply 4.5 to 18 fluid ounces per acre by ground equipment in sufficient water for thorough coverage. This product may be applied by air at the rate of 4.5 to 18 fluid ounces per acre in a minimum of 20 gallons of water. Mix only enough for immediate use. Spraying should begin when insects first appear. Do not wait until plants are heavily infested. Repeat as needed but not more than once daily.

PyGanic® Crop Protection EC 5.0_{II} may be used on most crops because its active ingredient is exempt from tolerances when applied to growing crops. The crop-grouping scheme used on this label was devised by the Environmental Protection Agency to expedite minor use

pesticide registration. Each crop grouping on this label contains the phrase “including” and then lists a number of crops in each group. This wording allows the use of PyGanic® Crop Protection EC 5.0_{fl} on crops that may not be specifically listed on this label (providing that the group to which the crop belongs is listed).

ROOT AND TUBER VEGETABLES: Including: Arracacha, Arrowroot, Purple Arrowroot, Japanese Artichoke, Jerusalem Artichoke, Garden Beets, Sugar Beets, Edible Burdock, Edible Cannas, Carrots, Cassava (bitter or sweet), Celeriac (celery root), Chayote (root), Chervil (turnip rooted), Chicory, Chufa, Dasheen, Ginger, Ginseng, Horseradish, Leren, Parsley (turnip rooted), Parsnip, Potato, Radish, Japanese Radish (daikon), Rutabaga, Salsify, Black Salsify, Spanish Salsify, Sweet Potato, Tanier, Turmeric, Turnip, Yam (true), Yam Bean.

LEAVES OF ROOT AND TUBER VEGETABLES: Including: Garden Beet, Sugar Beet, Edible Burdock, Carrot, Cassava (bitter or sweet), Celeriac (celery root), Chervil (turnip rooted), Chicory, Dasheen (taro), Parsnip, Radish, Japanese Radish (daikon), Rutabaga, Black Salsify, Sweet Potato, Tanier, Turnip, Yam (true).

BULB VEGETABLES: Including: Garlic, Great-headed Garlic, Leek, Onion (bulb and green) Welch, Shallot.

LEAFY VEGETABLES: Including: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula, Cardoon, Celery, Chinese Celery, Celtuce, Chervil, Corn Salad, Chrysanthemum (edible-leaved), Chrysanthemum (garland), Cress (garden, water), Upland Cress (yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Fennel (Florence), Lettuce (head and leafy), Orach, Parsley, Purslane (garden and winter), Radicchio, Rhubarb, Spinach, Fine Spinach (Melabar, Ceylon), Spinach (New Zealand), Swiss Chard.

BRASSICA (COLE) LEAFY VEGETABLES: Including: Broccoli, Chinese Broccoli (Gai Lan), Broccoli Raab (rapini), Brussel Sprouts, Cabbage, Chinese Cabbage (Bok Choy), Chinese Cabbage (Napa), Chinese Mustard Cabbage (Gai Choy), Cauliflower, Cavallo Broccoli, Collards, Kale, Kohlrabi, Mizuna, Mustard Greens, Mustard Spinach, Rape Greens.

LEGUME VEGETABLES (SUCCULENT OR DRIED): Including: Adzuki Beans, Field Beans, Kidney Beans, Lima Beans, Moth Beans, Mung Beans, Navy Beans, Pinto Beans, Rice Beans, Runner Beans, Snap Beans, Tepary Beans, Urd Beans, Wax Beans, Asparagus Beans, Black-eyed Peas, Catjang, Chinese Longbeans, Cowpeas, Chowder Peas, Southern Peas, Yardlong Beans, Broad Beans (fava beans), Chick Peas (garbanzo beans), Guar, Jackbeans (sword beans), Lablab Beans (hyacinth bean), Lentils, Peas (garden peas, field peas, sugar snap peas, English peas, snow peas), Pigeon Peas, Soybeans, Sweet Lupin Beans, White Lupin Beans, White Sweet Lupin, Sword Beans.

FOLIAGE OF LEGUME VEGETABLES: Including: Plant part of any legume vegetable included in the legume vegetable group that will be used as animal feed including any variety of Beans, Field Peas, Soybeans.

FRUITING VEGETABLES: Including: Eggplant, Ground Cherry, Okra, Pepinos, Pepper (bell pepper, chili peppers, cooking peppers, pimentos, sweet peppers), Tomatillo, Tomatoes.

CUCURBIT VEGETABLES: Including: Balsam Apple, Balsam Pear (bitter melon), Chayote (fruit), Chinese Waxgourd (Chinese preserving melon), Chinese Cucumber, Citron Melon, Cucumber, Gherkin, Edible Gourds, Melons (including hybrids, cantaloupe, casaba, golden pershaw melon, crenshaw, honeydew melons, honey balls, mango melon, muskmelon, Persian melon, pineapple melon, Santa Claus melon, snake melon), Pumpkin, Squash (summer and winter), Watermelon (including hybrids).

CITRUS FRUITS: Including: Calamondin, Citrus Citron, Citrus Hybrids, Grapefruits, Kumquats, Lemons, Limes, Mandarin (tangerine), Orange (sweet and sour), Pummelo, Satsuma Mandarin, (Citrus spp. includes chironja, tangelos, tangors).

POME FRUITS: Including: Apple, Crabapple, Loquat, Mayhaw, Pear, Oriental Pear, Quince.

STONE FRUITS: Including: Apricot, Cherry (sweet and sour), Nectarine, Peach, Plum, Prune, Chickasaw Plum, Damson Plum, Japanese Plum, Plumcot.

SMALL FRUITS AND BERRIES: Including: Blackberry, Blueberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Grape, Huckleberry, Loganberry, Olallie Berry, Raspberry (black and red), Strawberry, Youngberry.

TREE NUTS: Including: Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazel nut), Hickory Nut, Macadamia Nut (bush nut), Pecan, Pistachio, Walnut, Black and English (Persian).

ORIENTAL VEGETABLES: Including: Acerola, Ateemoya, Balsam pear (bitter melon), Carambola, Japanese Artichoke, Chinese Broccoli (Gai Lan), Chinese Cabbage (Bok Choy, Napa), Chinese Mustard Cabbage (Gai Choy), Dasheen, Ginger, Ginseng, Chinese Longbeans, Mung Beans, Citron Melon, Japanese Radish (daikon), Chinese Spinach, Chinese Waxgourd, Cilantro, Citron Melon, Rambutan, Water Chestnut.

SUBTROPICAL FRUITS: Including: Avocado, Banana, Carob, Barbados Cherry, Cherimoya, Dates, Durian (jackfruit), Feijoa, Figs, Guava, Kiwifruit, Lychee, Mando, Papaya, Passion Fruit, Persimmon, Pineapple, Pomegranate.

CEREAL GRAINS: Including: Barley, Buckwheat, Corn (sweet and field), Millet, Proso, Oats, Pearl Millet, Popcorn, Rice, Rye, Sorghum (milo), Teosine, Triticale, Wheat, Wild Rice.

FORAGE, FODDER AND STRAW OF CEREAL GRAINS: Including: Barley, Buckwheat, Corn (sweet and field), Millet, Proso, Oats, Pearl, Popcorn, Rice, Rye, Sorghum (milo), Teosine, Triticale, Wheat, Wild Rice.

GRASSES FOR SEED, FORAGE, FODDER AND HAY: Including: any grass (Gramineal family, green or cured, except sugarcane and those listed in the cereal grains group) Pasture and Range Grasses, Grasses grown for hay and silage, Bermuda Grass, Bluegrass, Bromegrass, Fescue, Oat Hay, Orchard Grass, Forage Sorghum, Sudangrass, Timothy.

NON-GRASS ANIMAL FEEDS: Including: Alfalfa, Velvet Bean, Clover, Kudzu, Lespedeza, Lupine, Sainfoin, Trefoil, Crown Vetch, Milk Vetch.

HERBS AND SPICES: Including: Allspice, Angelica, Anise (anise seed), Anise [star], Annatto (seed), Balm (lemon balm), Basil, Borage, Burnet, Camomile, Capers Buds, Caraway, Caraway [black], Cardamom, Cassia Bark, Cassia Buds, Catnip, Celery Seed, Chervil (dried), Chicory, Chive, Chive [Chinese], Cinnamon, Clary, Clove Buds, Coriander (cilantro or Chinese parsley leaf), Coriander (cilantro) (seed), Costmary, Culantro (leaf), Culantro (seed), Fennel, Curry (leaf), Dill (dillweed), Dill (seed), Fennel (common), Florence Fennel (seed), Fenugreek, Grains of Paradise, Horehound, Hyssop, Juniper Berry, Lavender, Lemongrass, Lovage (leaf), Lovage (seed), Mace, Marigold, Marjoram (includes sweet or annual marjoram, wild marjoram or oregano, and pot marjoram), Mustard (seed), Nasturtium, Nutmeg, Oregano, Mint, Paprika, Parsley (dried), Pennyroyal, Pepper [black], Pepper [white], Poppy (seed), Rosemary, Rue, Saffron, Sage, Savory [summer and winter], Sweet Bay (bay leaf), Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

ADDITIONAL CROPS: Including: Artichoke, Asparagus, Avocado, Coffee, Cotton, Hops, Jojoba, Mushroom, Okra, Olives, Peanuts, Pineapple, Rice, Safflowers, Sesame, Sugar Cane, Sunflower, Tea.

TO KILL ANTS ON ORCHARD FLOORS AND VINEYARD FLOORS: Apply as a broadcast spray to the entire orchard or vineyard floor using ground spray equipment at 5 to 18 fluid ounces per acre in 25 or more gallons of water. For best results use the high rate for heavy infestations and the lower rate for light infestations.

Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard or vineyard floor. Mow or chemically control weeds before the application. Foliar applications of PyGanic® Crop Protection EC 5.0_{fl} may be made in addition to the orchard floor treatment.

ORNAMENTALS: Including: African Violet, Ageratum, Aster, Azalea, Begonia, Calceolaria, Calendula, Calla, Camellia, Carnation, Ceanothus, Cineraria, Chrysanthemum, Coleum, Cyclamen, Cypress, Daffodil, Dahlia, Delphinium, Dogwood, Elm, Eucalyptus, Fern, Ficus, Foliage Plants, Fuchsia, Gardenia, Geranium, Gladiolus, Gloxinia, Gypsophila, Holly, Hyacinth, Hydrangea, Iris, Lily, Maidenhair Fern, Marigold, Narcissus, Palm, Pansy, Peony, Pelargonium, Petunia, Philodendron, Phlox, Pine, Pyracantha, Rhododendron, Roses, Rubber Plant, Snapdragon, Sweet Pea, Tulips, Viburnum, Wandering Jew, Yew, Zinnia and Andromeda, Arborvitae, Ash, Beech, Birch, Boxwood, Cotoneaster, Crabapple, Euonymus, Fir, Firethorn, Forsythia, Hawthorn, Hemlock, Hickory, Honey Locust, Horse Chestnut, Juniper, Larch, Laurel, Lilac, Linden, Mimosa, Myrtle, Oak, Pine, Privet, Tulip Tree, Viburnum, Willow.

USE ON GREENHOUSE FRUIT, VEGETABLE, FLOWER AND FOLIAGE PLANTS:

Combine 16 to 32 fluid ounces with 100 gallons of water for applications with conventional sprayers or 7 to 15 ml. (1/4 to 1/2 of a fluid ounce) per gallon of water for applications with handheld or backpack sprayers.

FOR USE OUTDOORS ON TREES, SHRUBS, FLOWERS AND FOLIAGE PLANTS:

Combine 16 to 32 fluid ounces of PyGanic® Crop Protection EC 5.0_{fl} with 100 gallons of water for applications with conventional sprayers or 16 to 32 fluid ounces of PyGanic® Crop Protection EC 5.0_{fl} with 10 gallons of water for applications with low volume mist blowers or 7 to 15 ml. (1/4 to 1/2 of a fluid ounce) per gallon water for applications with handheld or backpack sprayers.

FOR USE ON AND AROUND LISTED OUTDOOR AREAS: To kill insects on Turf, Ornamental Plants, Gardens, Landscaping, Foundation Walls and Perimeters mix 7 to 15 ml. (1/4 to 1/2 of a fluid ounce) of PyGanic® Crop Protection EC 5.0_{fl} per gallon of water for applications with compressed air sprayers or pump driven sprayers.

FOR USE IN VEGETABLE AND TRUCK GARDENS: For commercial production of listed crops to kill listed insects dilute 7 to 15 ml. of PyGanic® Crop Protection EC 5.0_{fl} per gallon of water. Apply diluted solution with all types of agricultural sprayers, including compressed air sprayers or pump driven sprayers.

USE INDOORS ON TREES, SHRUBS, FLOWERS AND FOLIAGE PLANTS: Combine 16 to 32 fluid ounces of PyGanic® Crop Protection EC 5.0_{fl} with 100 gallons of water for applications with conventional sprayers or 7 to 15 ml. (1/4 to 1/2 of a fluid ounce) of PyGanic® Crop Protection EC 5.0_{fl} per gallon of water for applications with handheld or backpack sprayers.

USE WITH HYDROPONICALLY GROWN VEGETABLES AND ORNAMENTALS AS A WATER SYSTEM TREATMENT: To kill aquatic Diptera larvae, apply PyGanic® Crop Protection EC 5.0_{II} to the water at the rates outlined in the following table:

Pyrethrins concentration	ml. of PyGanic® Crop Protection EC 5.0 _{II}	Gallons of water
0.1 ppm	80.0	10,000
0.01 ppm	8.0	10,000
0.001 ppm	0.8	10,000

***FOR USE ON HARVESTED FRUITS AND VEGETABLES:** Apples, Blackberries, Blueberries, Boysenberries, Cherries, Crabapples, Currants, Dewberries, Figs, Gooseberries, Grapes, Guavas, Loganberries, Mangoes, Muskmelons, Oranges, Peaches, Pears, Peas, Pineapples, Plums, Raspberries, Tomatoes.

***DIRECT SPRAY TO FRUITS IN BASKETS, ON TRUCKS OR IN PROCESSING PLANTS:** To kill *Drosophila* spp., *Tephritid* spp., Fruit Flies, Vinegar Flies and other nuisance pests, dilute this concentrate at the rate of 1 part with 900 parts water (1 pint with 125 gallons of water or 5 ml. with 10 pints of water). Thoroughly mix the emulsion in the spray tank and treat as follows:

- 1) Apply liberally to fruits and vegetables in baskets, on trucks and in plants. Use sprayers at a high pressure for applying at the rate of five or six pints of diluted spray to a 2-ton load of produce. Direct the spray for maximum coverage of the baskets or hampers. It is important to spray between and beneath the containers.
- 2) Spray the raw stock stacked in the yard.
- 3) Dip baskets in the diluted spray, after dumping the produce to kill adhering larvae and pupae.

*NOT REGISTERED FOR THIS USE IN THE STATE OF CALIFORNIA

GENERAL USE DIRECTIONS FOR INDOOR APPLICATIONS

Remove pets and birds and cover fish aquariums before spraying.

Kills only at time of application. Listed insect pests must be directly contacted to be effective.

Do not apply in institutions (including libraries, schools, sports facilities, etc.) in the immediate area where occupants are present. Do not apply to classrooms while in use. Vacate rooms prior to treatment. If application is done as a surface spray, occupants may re-enter once the spray has dried. If application is done as a space spray, rooms should be ventilated for two hours after spraying. Do not allow occupants to enter room until after ventilation.

FOOD AREA USE: Avoid contamination of food or feedstuffs. Do not apply directly to food. Do not apply space spray while food processing is underway. Foods should be removed or covered during treatment. All food processing surfaces and equipment should be covered or washed with an effective cleaning compound followed by a potable water rinse. In the home all food processing surfaces, dishes and utensils should be covered during treatment or thoroughly washed before use.

USE AS A SURFACE SPRAY IN LISTED INDOOR AREAS: To kill accessible, exposed stages of listed crawling insects, dilute 1 to 3 fluid ounces of concentrate with one gallon of water, mix well and apply as a coarse wetting spray at the rate of 1 gallon of spray mixture per 750 square feet of surface. To ensure maximum kill of listed crawling insects, spray thoroughly into all cracks, moldings, crevices, walls, floors and surfaces of bins, storage and handling areas. Particular attention should be paid to areas where moisture collects such as drains, sinks, and water pipes and around the base of heavy machinery and equipment, contacting as many insects as possible. To kill ANTS (excluding fire and Pharaoh ants), spray directly into nests, along trails, and directly on all ants observed.

Except in Federally inspected meat and poultry plants, food processing operations may continue when this product is applied as a surface spray with care and in accordance with the directions and precautions given above.

FOR FEDERALLY INSPECTED MEAT AND POULTRY PROCESSING FACILITIES: To kill accessible, exposed stages of listed crawling insects, dilute 9 fluid ounces with one gallon of water and apply at the rate of 1 gallon to 750 square feet, paying special attention to force the spray into all cracks and crevices.

DILUTION TABLE FOR SURFACE SPRAY

Fluid ounces of concentrate per gallon of solution	Pounds of pyrethrum per gallon of solution	Percent pyrethrins in solution
1	0.0032	0.039%
2	0.0064	0.078%
3	0.0096	0.118%
4	0.0128	0.159%
5	0.0160	0.200%
6	0.0192	0.242%
7	0.0224	0.284%
8	0.0256	0.328%
12	0.038	0.508%
16	0.051	0.702%
22	0.070	1.020%

SPACE SPRAY IN FOOD AND NONFOOD AREAS OF LISTED INDOOR AREAS:

For use in mechanical fogging or spraying equipment to kill accessible stages of listed FLYING AND CRAWLING INSECTS. Close room and shut off all air conditioners or ventilating equipment. Dilute at the rate of 1 part concentrate into 1 to 8 parts water (see table below) and mix well. Apply at the rate of 1 fluid ounce of diluted solution per 1,000 cubic feet of space, filling the room with mist. Direct the space treatment upward and whenever practical, keep doors and windows closed for at least 30 minutes after application. Vacate treated area and ventilate before re-entry.

This concentrate may also be diluted with oil. If the product is used in a certified organic facility, check with certification regulations regarding allowed oils. Any oil

should also meet Federal Food Additive Regulation requirements as defined by CFR Title 21. Conduct a small jar compatibility test by mixing a small amount of oil and concentrate and observe the physical compatibility of the mixture. Dilute at the rate of 1 part of concentrate with up to 8 parts oil. Apply at the rate of 1 fluid ounce of diluted solution per 1,000 cubic feet of space.

When this product is applied as a space spray in food processing or food handling establishment applications should be confined to time periods when the plant is not in operation.

DILUTION TABLE FOR ULV FOGGERS

Dilution ratio		Fluid ounces of concentrate per ounce of solution volume	Fluid ounces of water per ounce of solution volume	Pounds of pyrethrum per 1,000 cu. ft. when applied at 1 fl. oz. per 1,000 cu. ft.	Percent of pyrethrins in solution
Concentrate	Water				
Undiluted		1.00	0.00	0.0032	5.00%
1	1	0.50	0.50	0.0016	2.47%
1	2	0.33	0.67	0.0011	1.65%
1	3	0.25	0.75	0.00101	1.23%
1	4	0.20	0.80	0.00064	0.99%
1	8	0.11	0.89	0.00035	0.547%

***FOR USE ON SWEET POTATOES IN STORAGE:** To kill Fruit Flies and Vinegar Flies, dilute this concentrate at 1 part to 14 parts water (9 fluid ounces with one gallon of water). Apply as a space fog with a mechanical fogger capable of producing particles of aerosol size at the rate of 1 gallon diluted spray per 100,000 cubic feet of space. Apply only when flying insects are present. Several applications may be necessary during periods of heavy infestation, but do not make more than 10 applications.

***FOR USE ON STORED PRODUCTS:** The product can be used to kill accessible stages of listed insects on the following stored commodities: Almond Nutmeat and Shells, Barley, Beans, Birdseed, Buckwheat, Cocoa Beans, Corn, Cottonseed, Dried Apricots, Dried Fruit, Dried Prunes, Figs, Flax, Grain Nuts, Oats, Peanut, Pistachio, Raisins, Rice, Rye, Sorghum, Tobacco, Wheat, and Walnut Nutmeat and Shells held in storage.

***DRIED FRUIT PRODUCTS IN STORAGE OR BEING PROCESSED:** To kill the following stored product pests: Dried Fruit Beetle and Saw-toothed Grain Beetle. Remove and destroy infested products. Dilute concentrate at the rate of 1 part concentrate to 8 parts water and mix well. Disperse the solution as a fine mist in the air above the trays and shelves. Do not apply to fruit directly. If the solution is applied as a space spray, use one ounce diluted spray per 1,000 cubic feet of space. Repeat application at this dosage in any given month. Leave the room closed for one hour. Do not remain in treated areas and ventilate the area before re-entry. Sweep up and destroy fallen insects.

***ON ALMONDS, PEANUTS, PISTACHIOS AND WALNUTS IN BULK OR IN BAGS:** To kill the following stored product insects: Almond Moths, Angoumois Grain Moths, Ants, Cadellles, Cigarette Beetles, Confused Flour Beetles, Drugstore Beetles, Flat Grain Beetles, Granary Weevils, Indian Meal Moths, Lesser Grain Borers, Maize Weevils, Mediterranean Flour Moths, Merchant Grain Beetles, Red Flour Beetles, Rice Weevils, Rusty Grain Beetles, Saw-toothed Grain Beetles and Square-necked Grain Beetles, dilute 2.0 fluid ounces of PyGanic® Crop Protection EC 5.0, per gallon of water and apply as a coarse wet spray over the top of stored nuts or the outside surface of stacked bagged nuts at the rate of 4 gallons per 1,000 square feet. Apply at weekly intervals for about 6 weeks and then at 15-day intervals. The first two applications should be applied at the rate of 4 gallons per 1,000 square feet and subsequent treatments should be applied at the rate of 2 gallons per 1,000 square feet.

***TREATMENT OF STORED GRAIN AND SEED AREAS:** For best results to kill stored product pests in grain and seed storage areas and stored grain and seed, treat the area when it is empty of product, as a protectant applied as commodity is put into storage, and as a surface spray once it is in storage.

FOR USE IN STORAGE SITES: This concentrate can be used to treat grain and seed in warehouse bins and trucks, cargo ships, mills, bin hoppers, elevators and conveying equipment as a cleanup prior to using them for storage. In mills and elevators, all grain-infested accumulations should be removed from the bin hoppers. All storage areas and conveying equipment should be thoroughly cleaned by sweeping out the waste grain, cobwebs and other debris from the walls and rafters as well as on the floor and door frames with special attention to material lodged in the cracks and crevices. All debris should be removed and burned to kill eggs and insects that might be present.

For farms, particular attention should be given to cleaning up around the used feed and grain bags, grain residues from wagons, harvesting equipment and feed troughs. Newly harvested grain should not be placed in the same bin with carry-over grain, and all carry-over grain stocks that are not treated with grain protectant should be fumigated. These cleaning operations should be done within two or three weeks before harvest.

After above sanitation measures have been employed, spray all areas prior to use for storage with 1 part to 22 parts water (6 fluid ounces with one gallon of water) up to 1 part to 8 parts (1 pint with one gallon of water). Apply at the rate of one gallon per 750 square feet on walls, floors, ceilings and partition boards of bins, paying particular attention to forcing the spray into all cracks and crevices.

***FOR USE AS A GRAIN PROTECTANT:** This concentrate when diluted with water and sprayed directly on grains will effectively protect the grain against grain storage insects for a full season or approximately 8 months. Dilute at the rate of 1 part to

22 parts water (6 fluid ounces with one gallon of water). Thoroughly mix the emulsion and apply at the rate of 5 gallons per 1,000 bushels of grain as it is carried along a belt or as it enters the auger or elevator. This concentrate may be used in combination with a registered fumigant for use on heavily infested stored products.

Monthly inspections should be made. If the top 2 or 3 inches are infested, re-treat applying at the rate of 2 gallons of diluted material per 1,000 bushels of stored product.

***SURFACE TREATMENT OF STORED GRAIN AND SEED:** To kill Indian Meal Moths, Angoumois Grain Moths and Mediterranean Flour Moths, monthly inspections should be made after the grain is placed in storage. If the top two or three inches are infested, dilute 1 part PyGanic® Crop Protection EC 5.0, with 14 parts of water and apply at the rate of 2 gallons per 1,000 square feet of grain. Rake the mixture into the grain to a depth of 4 inches.

FOR USE ON LISTED ANIMALS

- 1) To kill and repel Horn Flies, House Flies and Gnats, dilute at the rate of 1.5 to 3 fluid ounces per gallon of water and apply to wet hair thoroughly, paying particular attention to topline, underline, flanks, withers and other infested areas. Repeat treatment at intervals of 5 to 12 days for small insect populations or as needed when flies are emerging in large numbers.
- 2) To kill and repel Stable Flies, dilute at the rate of 2.5 to 4 fluid ounces per gallon of water and apply at a quart per adult animal to wet hair thoroughly, paying particular attention to legs, flanks, barrel, topline and other body areas commonly attacked by these flies. Repeat treatment each week as needed.
- 3) To kill and repel Face Flies dilute at the rate of 2.5 fluid ounces per gallon of water and apply using spray which produces large wetting droplets. Apply to face of animal in the morning before releasing to pasture. Apply sufficiently to wet the face but not more than 1-1/2 ounces of spray solution per animal. Repeat daily as needed.
- 4) To kill Biting and Sucking Lice on livestock, dilute at the rate of 1 quart with 60 gallons of water (1.5 fluid ounces with 2 gallons) and spray to thoroughly wet hair of animal, including the head and brush of the tail. Repeat treatment in 10 days to kill newly hatched lice.
- 5) To kill Poultry Lice, using a dilution of 2.5 to 4 fluid ounces of concentrate per gallon of water. Spray roosts, walls and nests or cages thoroughly. It is not necessary to remove poultry from the housing unit during treatment. This should be followed by spraying over the birds with a fine mist.
- 6) To kill Mites on poultry and in poultry houses, dilute at the rate of 2.5 to 4 fluid ounces per gallon of water and spray crevices of roost poles, cracks in walls and cracks in nests where the mites hide. This should be followed by spraying over the birds with a fine mist.
- 7) To kill Sheep "tick" or ked, dilute at the rate of 1.5 to 3 fluid ounces per 4 gallons of water and thoroughly wet all portions of the body by dipping or spraying with sufficient pressure and with a nozzle adjustment to give penetration of the wool. Treat at a rate sufficient to wet the animal.
- 8) To kill Fleas and Brown Dog Ticks on livestock and to obtain protection against reinfestation, dilute at the rate of 9 fluid ounces per gallon of water and wet the animal by dipping or spraying. This product may also be used for livestock/pet quarters. Do not spray pets. For best results against Fleas and Brown Dog Ticks on dogs and cats the kennels and/or animal quarters and bedding should be treated. Remove and destroy pet's old bedding. To reduce infestation, thoroughly spray the animal's bedding and sleeping quarters. Also spray the entire inside surface of dog houses. Put fresh bedding in pet's quarters after spray has dried. Also treat dogs and cats [pets] with a registered flea and tick control product before allowing them to reenter treated area.

*NOT REGISTERED FOR THIS USE IN THE STATE OF CALIFORNIA

9) To kill adult Darkling Beetle (lesser meal worm) in poultry houses, dilute 2.0 to 5.0 teaspoons (10 to 25 ml.) of PyGanic® Crop Protection EC 5.0_g per gallon of water. Using a power or proportioner-type sprayer, apply a uniform spray until wet at pressures of 80 to 100 pounds per square inch to surfaces such as interior walls, roosting posts, structural support pillars, and other surfaces where adult beetles are observed. One gallon of spray mixture covers 250 to 500 square feet. Do not contaminate food/feed or water. For maximum effectiveness, treatments should coincide with each growout or sanitation procedure. Indoor control can be enhanced by making perimeter treatments around the outside of buildings. To prevent immigrating adult beetles, apply a uniform band of spray 2 feet up and 1 to 4 feet out from the foundation.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place. Keep container closed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other approved state and local procedures.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if absorbed through skin. Harmful if swallowed. Causes moderate eye irritation. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using toilet. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear: coveralls over short-sleeved shirt and short pants; chemical-resistant gloves, such as, Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton; chemical-resistant footwear plus socks; chemical-resistant headgear for overhead exposure; chemical-resistant apron when cleaning equipment, mixing, or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this 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.

When handlers use aircraft in a manner that meets the requirements listed in the Worker Protection Standard (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.



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8810 Tenth Avenue North, Minneapolis, MN 55427
037-1572/2.5M-0509

EPA Reg. No. 1021-1772

FOR USE IN BARN, DAIRIES, MILKING PARLORS, MILKING ROOMS AND POULTRY

HOUSES: To kill the following flying insects: Flies, Fruit Flies, Gnats and Small Flying Moths, dilute at the rate of 2.5 fluid ounces per gallon of water. Apply as a fog or fine mist (at approximately 2 fluid ounces per 1,000 cubic feet of space), directing the nozzle for maximum coverage and above livestock and poultry toward the ceiling and upper corners of the area being treated. For best results, close doors and windows before spraying, and keep them closed for 10 to 15 minutes. Applicator should vacate the treated area and ventilate it prior to returning. Sweep up and destroy fallen insects.

User Safety Recommendations:

Users should: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is highly toxic to fish. For terrestrial uses, 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 from treated areas may be hazardous to organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

IF SWALLOWED:

- Call 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 a 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.

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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-740-8712 for emergency medical treatment information.



REGALIA[®] PTO

A plant extract to boost the plants' defense mechanisms to protect against certain fungal and bacterial diseases, and to improve plant health.

Active ingredient: Extract of *Reynoutria sachalinensis*..... 5 %
Other ingredients:..... 95 %
Total:..... 100 %

EPA Reg. No. 84059-3-87865

GROUP P5 FUNGICIDE

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID	
IF SWALLOWED:	Call 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.
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 INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further 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.
Have the product container or label with you when calling a poison control center or doctor, or if going for treatment.	



CAN BE USED IN ORGANIC PRODUCTION



NET CONTENTS:

1 gallon 2.5 gallons _____

Manufactured by:



2121 Second St., Ste. B-107 Davis, CA 95618 USA
info@marronebio.com

Sold by:



118 E. Carleton St., Ste. A Prescott, AZ 86303 USA
Phone: 928-445-7990 www.engageagrousa.com

REGPTO_EM1212v6_2013_05

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Waterproof gloves
- Protective eyewear

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

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 State or Tribal 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 exemptions pertaining to the statements on this label about personal protective equipment (PPE) and the restricted-entry interval (REI). 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 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
- Waterproof gloves
- Shoes plus socks
- 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 (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

GENERAL INFORMATION

REGALIA[®] PTO is an extract from the plant *Reynoutria* spp. for use on edible crops, ornamental plants and turf. REGALIA[®] PTO applied to actively growing plants (see DIRECTIONS FOR USE) will improve plant health, and will help make the treated portions resistant to certain plant diseases. Use REGALIA[®] PTO as a preventative rather than a curative application. Apply prior to disease infestation to protect the growing leaf tissue. See specific information for diseases controlled and use rates on edible crops, ornamental plants and turf.

REGALIA[®] PTO can be used as a plant dip, soil drench, or applied through drip irrigation to control or suppress certain soil-borne diseases and to promote healthy root growth.

MODE OF ACTION

The extract obtained from *Reynoutria* spp. plant material contains active chemical compounds. The extract, when applied to the host plant, increases the plant's defense system due to a five-fold increase in phenolics and antioxidants, and strengthens cell walls. This induced resistance against important diseases is not systemic, but provides some translaminar protection. Repeat foliar applications at 7–14-day intervals to maintain induction and to protect new plant growth. The resistance induction takes place within one to two days.

Use REGALIA[®] PTO, therefore, as a preventative treatment.

MIXING AND APPLICATION INSTRUCTIONS

– SHAKE WELL PRIOR TO USE –

REGALIA[®] PTO is a micro-emulsion concentrate consisting of certain ingredients extracted from *Reynoutria* spp. Use 50-mesh nozzle screens or larger.

See **AERIAL APPLICATION** section for aerial application use directions.

See **CHEMIGATION** section for chemigation use directions.

See **PRE-PLANT DIP** section for pre-plant dip use directions.

See **SOIL TREATMENT** section for soil application use directions.

Use higher water volumes with larger sized crops and extensive foliage to secure thorough coverage.

REGALIA[®] PTO alone: Add ½ of the required amount of water to the mix tank. With the agitator running, add the REGALIA[®] PTO to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the REGALIA[®] PTO has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

REGALIA[®] PTO + tank mixtures: Add ½–¾ of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as REGALIA[®] PTO. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process. After all components are completely dispersed add the remainder of the water. REGALIA[®] PTO cannot be mixed with another product with a prohibition against mixing. Use of the tank mix must be in accordance with the more restrictive label limitations and precautions. **Do not pre mix REGALIA[®] PTO with any other tank mix component prior to adding to the spray tank.**

Compatibility: Do not combine REGALIA[®] PTO in the spray tank with pesticides, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions.

REGALIA[®] PTO is compatible with many commonly used pesticides, fertilizers, adjuvants, and surfactants, but has not been evaluated with all potential combinations. To ensure compatibility of the tank mix combinations, evaluate prior to use as follows: Using a suitable container, add the proportional amounts of product to water. Add wettable powders first, then water dispersible granules, then liquid flowables, and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the mix on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of the application.

AERIAL APPLICATION INSTRUCTIONS

Apply REGALIA[®] PTO by aerial application to the plants listed at the rate of 1 quart per acre in a minimum of 5 gallons of water per acre unless specified differently in the APPLICATION RATES section. Increasing the amount of water applied per acre may improve product performance. Follow all instructions to reduce aerial drift.

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 determine 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.

Note: This section is advisory in nature and does not supersede the mandatory label requirements.

INFORMATION ON DROPLET SIZE: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply droplets large enough to provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

CONTROLLING DROPLET SIZE: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure – Do not exceed the nozzle manufacturer’s recommended pressures. For many nozzle types, lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

BOOM WIDTH: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3–10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

APPLICATION HEIGHT: Do not make applications at a height greater than 10 feet above the top of the largest 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 downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

WIND: Drift potential is lowest between wind speeds of 2–10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 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 spray drift.

TEMPERATURE AND HUMIDITY: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS: Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS: The pesticide should only be applied 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). Do not allow spray 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 areas, woodlands, pastures, rangelands, or animals.

CHEMIGATION USE DIRECTIONS

Apply REGALIA® PTO at 1–4 quarts per acre according to the instructions below unless specified differently in the APPLICATION RATES section.

CHEMIGATION

General Requirements -

- 1) Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Specific Requirements for Chemigation Systems Connected to Public Water Systems -

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Sprinkler Chemigation -

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

Specific Requirements for Flood (Basin), Furrow and Border Chemigation -

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- 2) The systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - a. The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
 - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
 - c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
 - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
 - e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
 - f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Specific Requirements for Drip (Trickle) Chemigation -

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Application Instructions for All Types of Chemigation -

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions. Product can be applied continuously or at any time during the water application.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required.

PRE-PLANT DIP USE DIRECTIONS

REGALIA[®] PTO can be applied as a pre-plant dip for improved plant health and suppression of certain soil-borne diseases. Apply REGALIA[®] PTO in 1–3 quarts product per 100 gallons of water as a pre-plant dip immediately prior to transplanting, unless specified differently in the APPLICATION RATES section.

SOIL TREATMENT USE DIRECTIONS

REGALIA[®] PTO can be applied by soil drench to improve plant health and to protect against certain soil-borne diseases.

In general, REGALIA[®] PTO can be applied by the following methods, unless specified differently in the APPLICATION RATES section:

Soil Drench Applications:

Apply REGALIA[®] PTO at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of REGALIA[®] PTO during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.

In-Furrow Applications:

At planting, apply REGALIA[®] PTO as an in-furrow spray at the rate of 1–4 quarts per acre or 2.2–8.8 fluid ounces per 1000 feet of row according to the chart below. Apply REGALIA[®] PTO in 5 to 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

Rate	In-Furrow Application Rates Product per Acre (fl. oz.)					
	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
2.2 fl. oz. per 1000 ft. row	38.3	36.0	33.8	32.0	30.3	28.7
8.8 fl. oz. per 1000 ft. row	153.2	144.0	135.2	128.0	121.2	114.8

30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre.

APPLICATION RATES

REGALIA® PTO used as specified will improve plant health, and induce the defense system of the treated plants listed below towards the diseases specified below.

The general recommended use rate for REGALIA® PTO applied alone or as an alternate spray is 2–4 quarts per 100 gallons of water (0.5–1.0% v/v dilution of REGALIA® PTO) applied at 50–100 gallons of water per acre. When tank mixed with another fungicide, the use rate for REGALIA® PTO is 1–4 quarts in 100 gallons of water applied at 50–100 gallons of water per acre. Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. See specific application recommendations for additional details.

For greenhouse application, the recommended use rate for REGALIA® PTO is 2–4 quarts in 100 gallons of water (0.5–1.0% v/v dilution of REGALIA® PTO) sprayed until just before point of runoff. When tank mixed with another fungicide, the use rate for REGALIA® PTO is 1–4 quarts in 100 gallons of water. Repeat at 7–14-day intervals as needed. See specific application recommendations for additional details.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Ornamentals	Anthracnose (<i>Colletotrichum</i> spp.)	Foliar	1–4 quarts per acre	For foliar applications, mix this product concentrate with water at a concentration of 2–4 quarts per 100 gallons of water when used alone or 1–4 quarts per 100 gallons of water when tank mixed with another fungicide.
Herbaceous Ornamentals Flowering Plants Foliage Plants	Bacteria (<i>Erwinia</i> spp.) (<i>Pseudomonas</i> spp.) (<i>Xanthomonas</i> spp.)			
Woody Ornamentals Broadleaves, Shrubs and Trees Conifers, Shrubs and Trees	Black Spot of Rose (<i>Diplocarpon rosae</i>) Blossom Blight (<i>Monilinia</i> spp.) Downy Mildew (<i>Peronospora</i> spp.) (<i>Plasmopara viburni</i>) Gray Mold (<i>Botrytis cinerea</i>) Leaf Spot (<i>Alternaria</i> spp.) (<i>Cercospora</i> spp.) (<i>Entomosporium</i> spp.) (<i>Myrothecium</i> spp.) (<i>Septoria</i> spp.)			Begin applications preventatively (before disease symptoms become visible) at the 4–6-leaf stage and treat at 7–14-day intervals as needed prior to sale or harvest. Spray until just before point of runoff. This product may be used to control certain diseases of container, bench, flat, plug, bed, or field-grown ornamentals in greenhouses, shade-houses, outdoor nurseries, retail nurseries, and other landscape areas.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
	Powdery Mildew (<i>Erysiphe</i> spp.) (<i>Oidium</i> spp.) (<i>Podosphaera</i> spp.) (<i>Sphaerotheca</i> spp.) Rust (<i>Puccinia</i> spp.)			
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Soil Drench	1–3 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.
		Plant Dip	1–3 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–0.75% v/v suspension (1–3 quarts per 100 gallons water) as a pre-plant dip immediately prior to transplanting.

Do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI) of 4 hours**.

The following plant species have been treated with REGALIA[®] PTO to prevent disease.

Plants investigated:

Annual and Perennial Flowering Plants

Begonias, Freesias, Geraniums, Gerbera, Impatiens, *Lamium*, Lisianthus, Petunias, Poinsettias, Roses, Salvias, Snapdragons, Zinnias.

Trees and Shrubs

Azalea, Boxwood, Crape Myrtle, Dogwood, Indian Hawthorne, Jumbo Azalea, Lilac, Loropetalum, Japanese Maple, Japanese Privet, *Photinia*, Rhododendron, *Rosaceae*, Soft Touch Holly, Spirea, *Viburnum*.

Tropical Foliage

Aglaonema, *Dieffenbachia*, *Dracaena*, English Ivy, *Hibiscus*, Leatherleaf Fern, *Spathiphyllum*.

Since it is not possible to test all ornamental species or varieties grown in the greenhouse, test REGALIA[®] PTO on a few plants prior to large-scale usage.

Crop	Target Disease	Application Method	Product Use Rate per Application (per 1,000 sq. ft.)	Product Use Rate per Application (per Acre)	Application Instructions
Turfgrass Bluegrass Bentgrass Bermudagrass Dichondra Fescue Orchardgrass <i>Poa annua</i> Ryegrass St. Augustine Zoysia Mixtures and other grasses Ornamental Grasses	Anthracnose (<i>Colletotrichum graminicola</i>) Bermudagrass Decline (<i>Gaeumannomyces graminis</i> var. <i>graminis</i>) Brown patch (<i>Rhizoctonia solani</i>) Copper Spot (<i>Gloeocercospora sorghi</i>) Dollar Spot (<i>Lanzia</i> spp.) (<i>Moellerodiscus</i> spp. formerly <i>Sclerotinia homeocarpa</i>) Fusarium Patch (<i>Fusarium nivale</i>) Gray Leaf Spot (<i>Pyricularia grisea</i>) Powdery Mildew (<i>Erysiphe graminis</i>) Pythium Blight Pythium Root Rot (<i>Pythium aphanidermatum</i>) (<i>Pythium</i> spp.) Red Thread (<i>Laetisaria fuciformis</i>) Rust (<i>Puccinia</i> spp.) Rhizoctonia Large Patch (<i>Rhizoctonia solani</i>) Southern Blight (<i>Sclerotium rolfsii</i>) Summer Bentgrass Decline Take-All Patch (<i>Gaeumannomyces graminis</i>) Yellow Patch (<i>Rhizoctonia cerealis</i>) Yellow Tuft/Downy Mildew (<i>Sclerophthora macrospora</i>) Zoysia Patch (<i>Rhizoctonia solani</i>)	Foliar	1–3 fl. oz. per 1000 sq. ft. in a minimum of 1.5 gallons of water	3–8 pints per acre in a minimum of 50 gallons of water	This product aids in control of turf diseases and improves turf quality. For improved performance under moderate to severe disease pressure, reduce spray intervals or use this product in a tank mix or rotational program with other registered fungicides. Begin applications preventatively (before disease symptoms become visible) and treat at 7–14-day intervals as needed. Spray water volumes must be of at least 1.5 gallons of water per 1000 sq. ft. Under moderate to high disease pressure, tank mix with other registered fungicides.

This product may be used to control certain diseases of container, bench, flat, plug, bed, or field-grown ornamentals and edible crops in **greenhouses, shade-houses, outdoor nurseries, retail nurseries,** and other **landscape areas.**

For greenhouse application on the crops and diseases listed, the recommended use rate for REGALIA[®] PTO is 2–4 quarts in 100 gallons of water (0.5–1.0% v/v dilution for REGALIA[®] PTO) sprayed until just before point of runoff. When tank mixed with another fungicide, the use rate for REGALIA[®] PTO is 1–4 quarts in 100 gallons of water. Repeat at 7–14-day intervals as needed. See specific application recommendations for each crop for additional details.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<p>Bushberries and Caneberries</p> <p>Blueberry Blackberry (all varieties) Currant Elderberry Gooseberry Huckleberry Raspberry (red and black) and other berry crops</p>	<p>Mummy Berry (<i>Monilinia vaccinii-corymbosi</i>),</p> <p>Alternaria Fruit Rot (<i>Alternaria</i> spp.)</p> <p>Anthracnose Fruit Rot (<i>Colletotrichum acutatum</i>)</p> <p>Bacterial Canker (<i>Pseudomonas syringae</i>)</p> <p>Botrytis Blight (<i>Botrytis cinerea</i>)</p> <p>Leaf Rust (<i>Pucciniastrum vaccinii</i>)</p> <p>Leaf Spot and Blotch (<i>Mycosphaerella</i> spp.) (<i>Septoria</i> spp.)</p> <p>Phomopsis Leaf Spot, Twig Blight, and Fruit Rot (<i>Phomopsis</i> spp.)</p> <p>Powdery Mildew (<i>Microsphaera alni</i>)</p> <p>Spur Blight (<i>Didymella</i> spp.) (<i>Phoma</i> spp.)</p>	Foliar	1–4 quarts per acre	<p>For ground applications, apply this product in 50–100 gallons of water per acre.</p> <p>Mummy Berry–Initiate application at bud break stage of development. Apply this product preventatively and repeat on a 7–10-day interval or as needed. For best performance, tank mix this product with other registered fungicides for Mummy Berry control.</p> <p>Botrytis Blight–Apply this product preventatively when the first disease symptoms are visible and reapply every 7–14 days.</p> <p>Bacterial Canker–Apply this product prior to Fall rains and repeat applications during dormancy before Spring growth. This product can be tank mixed with another registered fungicide for improved control of bacterial canker.</p> <p>Anthracnose Fruit Rot and Alternaria Fruit Rot on blueberries–Initiate application at green tip and continue applications on a 7–10-day intervals.</p>
<p>Bulb Vegetables</p> <p>Onion Garlic Shallots and other bulb vegetables</p>	<p>Botrytis Leaf Blight (<i>Botrytis squamosa</i>)</p> <p>Botrytis Neck Rot (<i>Botrytis</i> spp.)</p> <p>Downy Mildew (<i>Peronospora</i> spp.)</p> <p>Onion Purple Blotch (<i>Alternaria porri</i>)</p> <p>Powdery Mildew (<i>Erysiphe</i> spp.)</p>	Foliar	1–4 quarts per acre	<p>For foliar applications, apply this product preventatively in 50–100 gallons of water per acre.</p> <p>Repeat applications at 7–14-day intervals.</p> <p>Under moderate to heavy disease pressure, tank mix this product with another fungicide.</p>

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
	Rust (<i>Puccinia porri</i>)			
	Stemphyllium Leaf Blight (<i>Stemphyllium vesicarium</i>)			
	<i>Fusarium</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	Soil Drench	1–3 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.
	In-furrow	1–4 quarts per acre 2.2–8.8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1–4 quarts per acre or 2.2–8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5–15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.	
	Chemigation	1–4 quarts per acre	For chemigation applications, apply this product through irrigation at the rate of 1–4 quarts per acre immediately after transplant and at 14-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.	
Plant Dip	1–4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts of this product per 100 gallons of water) as a pre-plant dip immediately prior to transplanting.		

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<p>Citrus Crops</p> <p>Orange Grapefruit Lemon Tangelo Tangerine Pummelo and other citrus crops</p>	<p>Bacterial Canker (<i>Xanthomonas</i> spp.)</p> <p>Alternaria Brown Spot (<i>Alternaria alternata</i>)</p> <p>Bacterial Blast (<i>Pseudomonas syringae</i>)</p> <p>Black Spot (<i>Guignardia citricarpa</i>) (<i>Phyllosticta citricarpa</i>)</p> <p>Greasy Spot (<i>Mycosphaerella citri</i>)</p> <p>Melanose (<i>Diaporthe citri</i>)</p> <p>Postbloom Fruit Drop (<i>Colletotrichum acutatum</i>)</p> <p>Scab (<i>Elsinoe australis</i>) (<i>Elsinoe fawcetti</i>)</p>	Foliar	1–4 quarts per acre	<p>For ground applications, apply this product preventatively in 50–100 gallons of water per acre.</p> <p>For improved performance, use this product in a tank mix or rotational program with other registered fungicides.</p> <p>Repeat applications at 7–14-day intervals.</p> <p>Dilute applications: this product can be applied by ground equipment to tree crops in dilute applications of 100–400 gallons of water. Apply this product at a rate of 2–4 quarts per acre when applied alone, or at 1–4 quarts per acre when tank mixed with another fungicide. Avoid excessive amounts of water that result in the runoff of spray material.</p>
	<p><i>Fusarium</i> spp.</p> <p><i>Phytophthora</i> spp.</p> <p><i>Pythium</i> spp.</p> <p><i>Rhizoctonia</i> spp.</p>	Plant Dip	1–4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1 % v/v suspension (1–4 quarts this product per 100 gallons water) as a pre-plant dip immediately prior to transplanting.
<p>Cole Crops (Brassicas)</p> <p>Broccoli Broccoli Rabe Brussels Sprouts Cabbage Chinese Broccoli Chinese Cabbage (Bok Choy) Chinese Cabbage (Napa) Chinese Mustard Cabbage (Gai Choy) Cauliflower Cavalo Collards Kale Kohlrabi Mizuna Mustard Greens</p>	<p>Powdery Mildew (<i>Erysiphe cruciferarum</i>) (<i>Erysiphe polygoni</i>)</p> <p>Alternaria Leaf Spot (<i>Alternaria</i> spp.)</p> <p>Downy Mildew (<i>Peronospora parasitica</i>)</p> <p>Pin Rot Complex (<i>Alternaria/Xanthomonas</i>)</p> <p>Xanthomonas Leaf Spot (<i>Xanthomonas campestris</i>)</p>	Foliar	0.5–4 quarts per acre	<p>For ground applications, apply this product at 1–4 quarts per 50 gallons of water.</p> <p>For concentrated ground applications, apply this product at 0.5–1.5 quarts per acre in 10 - 25 gallons of water per acre.</p> <p>Repeat applications at 7–14-day intervals.</p> <p>Under moderate to heavy disease pressure, tank mix this product with another fungicide.</p>

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Mustard Spinach Rape Greens Turnip and other cole crops	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Seed Treatment	1.5–2.5 fl. oz. per 100 lbs. seed	For suppression of soil-borne diseases, apply this product as a seed treatment at the rate of 1.5–2.5 fl. oz per 100 lbs. seed.
Corn Sweet Corn	Anthracnose Leaf Blight (<i>Colletotrichum graminicola</i>) Eye Spot (<i>Aureobasidium zeae</i>) Gray leafspot (<i>Cercospora zeae-maydis</i>) Rusts (<i>Puccinia</i> spp.) Northern Leaf Blight (<i>Exserohilum turcicum</i>) Northern Leaf Spot (<i>Cochliobus carbonum</i>) Southern Leaf Blight (<i>Cochliobolus heterostrophus</i>)	Foliar	0.5–2 quarts per acre	For ground applications to optimize disease control and to maximize yields, apply 1 - 2 quarts of this product preventatively in 15–40 gallons of water per acre prior to disease development using sufficient volume for thorough coverage. For improved performance, apply 0.5–2 quarts this product in a tank mix with another registered fungicide. Consult your local Extension Specialist or Crop Consultant regarding the optimum timing of fungicide applications.
Cucurbits Includes all types and hybrids of: Chayote Chinese waxgourd Cucumber Citron melon Gherkin Pumpkin Watermelon Edible Gourd: Chinese okra Cucuzza Hyotan Mormordica spp.: Balsam apple Balsam pear Bitter melon Chinese cucumber Muskmelon: Cantaloupe Casaba Crenshaw melon Golden pershaw melon Honeydew melon Honey balls Mango melon	Powdery Mildew (<i>Erysiphe cichoracearum</i>) (<i>Sphaerotheca fuliginea</i>) Anthracnose (<i>Colletotrichum lagenarium</i>) Alternaria Blight (<i>Alternaria cucumerina</i>) Cercospora Leaf Spot (<i>Cercospora citrulina</i>) Downy Mildew (<i>Pseudoperonospora cubensis</i>) Gummy Stem Blight (<i>Didymella bryoniae</i>) Phytophthora Blight (<i>Phytophthora capsici</i>)	Foliar	1–4 quarts per acre	For ground applications, apply this product preventatively in 25–100 gallons of water per acre or when the first symptoms of disease are visible. Increase water volume as plant size increases. Repeat applications in 7–14-day intervals depending upon crop growth and disease pressure. When greenhouse cucurbits are under high disease conditions, use the shorter spray interval. Downy Mildew – Tank mix this product with another fungicide labeled for Downy Mildew control and re-apply at a 7-day interval or according to the label directions of the tank mix partner. Phytophthora Blight – Apply this product in combination with labeled rates of a

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Persian melon Pineapple melon Santa Claus melon Snake melon				copper fungicide or with another fungicide labeled for Phytophthora Blight control.
Summer Squash: Crookneck squash Scallop squash Straightneck squash Vegetable marrow Zucchini Winter Squash: Acorn squash Butternut squash Calabaza Hubbard squash Spaghetti squash and other cucurbit crops	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Soil Drench	1–3 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.
		In-Furrow	1–4 quarts per acre 2.2–8.8 fl. oz. per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 1–4 quarts per acre or 2.2–8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5–15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Plant Dip	1–4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts this product per 100 gallons water) as a pre-plant dip immediately prior to transplanting.
		Chemigation	1–4 quarts per acre	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation at the rate of 1–4 quarts per acre immediately after transplant and at 14-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Fruiting Vegetables Tomato Pepper Eggplant Ground Cherry Okra Tomatillo and other fruiting vegetable crops	Bacterial Blight (<i>Xanthomonas</i> spp.)	Foliar	1–3 quarts per acre	For ground applications, apply this product preventatively in 25–100 gallons of water per acre. Increase water volume as plant size increases. Repeat applications at 7–10-day intervals. Tank mix this product with other registered fungicides for improved disease control under heavy pressure. Phytophthora Blight – Apply this product in combination with labeled rates of a copper fungicide or with another fungicide labeled for Phytophthora Blight control.
	Bacterial Spot (<i>Xanthomonas</i> spp.) Bacterial Speck (<i>Pseudomonas syringae</i>) Black Mold (<i>Alternaria alternata</i>) Early Blight (<i>Alternaria solani</i>) Gray Mold (<i>Botrytis cinerea</i>) Late Blight (<i>Phytophthora infestans</i>) Phytophthora Blight (<i>Phytophthora capsici</i>) Powdery Mildew (<i>Erysiphe</i> spp.) (<i>Leveillula taurica</i>) (<i>Oidopsis taurica</i>) (<i>Sphaerotheca</i> spp.) Target Spot (<i>Corynespora cassiicola</i>)			
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Soil Drench	1–3 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.
		In-Furrow	1–4 quarts per acre 2.2–8.8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting, apply this product as an in-furrow spray at the rate of 1–4 quarts per acre or 2.2–8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
				Apply this product in 5–15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Plant Dip	1–4 quarts per 100 gallons	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts this product per 100 gallons water) as a pre-plant dip immediately prior to transplanting.
		Chemigation	1–4 quarts per acre	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation at the rate of 1–4 quarts per acre immediately after transplant and at 14-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.
Herbs/ Spices	Downy Mildew (<i>Peronospora</i> spp.) Powdery Mildew (<i>Erysiphe</i> spp.) Rust (<i>Puccinia menthae</i>)	Foliar	1–4 quarts per acre	For ground applications, apply this product preventatively in a minimum of 50 gallons of water per acre. Repeat applications at 7–14-day intervals.
Leafy Vegetables Arugula Beet Celery Chervil Cilantro Corn Salad Cress Dandelion Dock Edible Chrysanthemum Endive Fennel Garden Peas Head Lettuce Leaf Lettuce Parsley Purslane Radicchio	Downy Mildew (<i>Bremia lactuca</i>) (<i>Peronospora</i> spp.) Bacterial Blight/Rot (<i>Xanthomonas</i> spp.) Cercospora leafspot (<i>Cercospora</i> spp.) Late Blight (<i>Septoria apiicola</i>) Pink Rot (<i>Sclerotinia sclerotiorum</i>) Powdery Mildew (<i>Erysiphe cichoracearum</i>) Sclerotinia Head and Leaf Drop	Foliar	0.5–4 quarts per acre	For ground applications, apply this product at 0.5–4 quarts in 50–100 gallons of water per acre. For concentrated ground applications, apply this product at 0.5–1.5 quarts per acre in a minimum of 10 gallons of water per acre. Repeat applications at 7–14-day intervals.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Rhubarb Spinach Swiss Chard Watercress and other leafy vegetables	<i>(Sclerotinia minor)</i> <i>(Sclerotinia sclerotiorum)</i> White Rust <i>(Albugo occidentalis)</i>			
Legumes/Vegetables Green Beans Lima Beans Peas Shell Beans Snap Beans and other legume crops	Bacterial Blight <i>(Xanthomonas campestris)</i> Gray Mold <i>(Botrytis cinerea)</i> Pythium (aerial blight phase) <i>(Pythium spp.)</i> Powdery Mildew <i>(Erysiphe spp.)</i> Rust <i>(Puccinia spp.)</i> <i>(Uromyces appendiculatus)</i> White Mold <i>(Sclerotinia sclerotiorum)</i>	Foliar	1–4 quarts per acre	For foliar applications, apply this product preventatively in 20–100 gallons of water per acre. For improved performance, use this product in a tank mix or rotational program with another registered fungicide. Repeat applications at 7–14-day intervals.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	In-Furrow	1–4 quarts per acre 2.2–8.8 fl. oz. per 1000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 1–4 quarts per acre or 2.2–8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5–15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
Pome Fruits Apple Crabapple Loquat Oriental Pear Pear Quince Mayhaw and other pome fruit crops	Powdery Mildew <i>(Podosphaera leucotricha)</i> Alternaria Blotch <i>(Alternaria mali)</i> Apple Scab <i>(Venturia inaequalis)</i> Suppression only Bitter Rot <i>(Colletotrichum spp.)</i>	Foliar	1–4 quarts per acre	For foliar applications, apply this product in 50–100 gallons of water per acre. Begin applications when conditions are conducive to disease development but not prior to petal fall. Repeat applications on 7–10-day intervals. Additional sprays beyond second cover may be needed on susceptible varieties, or when environmental conditions are conducive to rapid disease development. Use high label rate and shorter spray

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
	<p>Black Rot/Frogeye Leaf Spot (<i>Botryosphaeria obtusa</i>)</p> <p>Bot Rot (<i>Botryosphaeria dothidea</i>)</p> <p>Brooks Spot (<i>Mycosphaerella pomi</i>)</p> <p>Bull’s Eye Rot (<i>Neofabraea</i> spp.)</p> <p>Cedar-Apple Rust (<i>Gymnosporangium juniperi-virginianae</i>) Suppression only</p> <p>Fire Blight (<i>Erwinia amylovora</i>) Suppression only</p> <p>Flyspeck (<i>Zygophiala jamaicensis</i>)</p> <p>Scab (<i>Venturia</i> spp.)</p> <p>Sooty Blotch (<i>Geastrumia polystigmati</i>) (<i>Leptodontium elatius</i>) (<i>Peltaster fructicola</i>)</p> <p>White Rot (<i>Botryosphaeria dothidea</i>)</p>			<p>intervals when conditions are conducive to rapid disease development.</p> <p>Fire Blight–For suppression, apply 1–2 quarts of this product in 50–100 gallons of water per acre beginning at petal fall. For maximum control, use this product prior to infection events. During periods of rapid development and frequent infection periods, use spray intervals of 3–7 days.</p> <p>Apply in sufficient water to provide full coverage. For improved performance, use this product in a rotational program with antibiotics registered for Fire Blight control such as but not limited to oxytetracycline or streptomycin.</p> <p>Proper orchard cultural practices are essential to eliminate Fire Blight-infected tissue from the orchard to assure good performance of any crop protection product. Care must be taken to remove and destroy dead and diseased wood from the orchard prior to and during the growing season.</p> <p>Scab – For suppression, apply 1 quart of this product in 50–100 gallons of water per acre at green tip and through bloom when environmental conditions become favorable for primary Scab development and repeat on a 7–10-day interval or as needed. Use this product in a tank mix or rotational program with other fungicides labeled for Scab control. Following bloom, this product can be applied at 2–4 quarts per acre.</p> <p>Use caution when selecting spray adjuvants. Select only those adjuvants which</p>

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
				<p>through prior experience do not affect fruit finish when combined with this product.</p> <p>Dilute applications: this product can be applied by ground equipment to tree crops in dilute applications of 100–400 gallons of water. Apply this product at a rate of 2–4 quarts per acre when applied alone, or at 1–4 quarts per acre when tank mixed with another fungicide. Avoid excessive amounts of water that result in the runoff of spray material.</p>
Root / Tuber Carrot Potato Sweet Potato Beets Ginger Horseradish Radish Ginseng Turnip and other root/tuber crops	Bacterial Leaf Blight <i>(Xanthomonas campestris)</i> Black Root Rot / Black Crown Rot <i>(Alternaria spp.)</i> Downy Mildew <i>(Peronospora spp.)</i> Early Blight <i>(Alternaria solani)</i> Gray Mold <i>(Botrytis spp.)</i> Late Blight <i>(Phytophthora infestans)</i> Powdery Mildew <i>(Erysiphe spp.)</i> White Mold <i>(Sclerotinia sclerotiorum)</i>	Foliar	1–4 quarts per acre	<p>For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts this product per 100 gallons water) as a pre-plant dip immediately prior to transplanting.</p> <p>For foliar applications, apply this product in 25–100 gallons of water per acre sufficient to provide thorough coverage. Begin application soon after emergence or transplant, and when conditions are conducive to disease development. Repeat on a 7–10-day interval or as needed. Use shorter intervals when conditions are conducive to rapid disease development.</p> <p>For suppression of Early Blight, Black Root Rot/Black Crown Rot, and Late Blight, begin application of this product in 25–100 gallons of water per acre soon after emergence when conditions are conducive to disease development. Repeat on a 5–7-day interval or as needed. For improved performance, use this product in a tank mix with other registered fungicides.</p>

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
	Clubroot <i>(Plasmodiophora brassicae)</i> Common Scab <i>(Streptomyces scabies)</i> <i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Soil Drench	1–3 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.
		In-Furrow	1–4 quarts per acre 2.2–8.8 fl. oz. per 1000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 1–4 quarts per acre or 2.2–8.8 fluid ounces per 1000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5–15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Seed Piece Dip	1–4 quarts per 100 gallons of water	For seed piece dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts this product per 100 gallons water) as a pre-plant dip to transplants or seed pieces immediately prior to transplanting.
		Chemigation	1–4 quarts per acre	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation at the rate of 1–4 quarts per acre immediately after transplant and at 14-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<p>Stone Fruits</p> <p>Apricot Cherry (sweet and tart) Nectarine Peach Plum Plumcot Prune and other stone fruit crops</p>	<p>Alternaria Spot/Fruit Rot (<i>Alternaria alternata</i>)</p> <p>Anthracnose (<i>Colletotrichum</i> spp.)</p> <p>Bacterial Canker (<i>Pseudomonas</i> spp.)</p> <p>Bacterial Spot (<i>Xanthomonas pruni</i>)</p> <p>Brown Rot Blossom Blight (<i>Monilinia laxa</i>)</p> <p>Brown Rot Fruit Rot (<i>Monilinia fruticola</i>)</p> <p>Cercospora Leaf Spot (<i>Cercospora</i> spp.)</p> <p>Cherry Leaf Spot (<i>Blumeriella jaapii</i>)</p> <p>Gray Mold (<i>Botrytis cinerea</i>)</p> <p>Powdery Mildew (<i>Podosphaera</i> spp.) (<i>Sphaerotheca pannosa</i>)</p> <p>Rust (<i>Tranzschelia discolor</i>)</p> <p>Rusty Spot (<i>Podosphaera leucotricha</i>)</p> <p>Scab (<i>Cladosporium carpophilum</i>)</p> <p>Shot Hole (<i>Wilsonomyces carpophilus</i>)</p>	<p>Foliar</p>	<p>1–4 quarts per acre</p>	<p>For foliar applications, apply this product preventatively in 50–100 gallons of water per acre.</p> <p>Bacterial Blight—Apply this product in 50–100 gallons of water per acre postharvest before Fall rains.</p> <p>Brown Rot Blossom Blight—Begin application of this product in 50–100 gallons of water per acre at early bloom, and repeat through petal fall on a 7-day interval or as needed.</p> <p>Powdery Mildew – Begin application of this product in 50–100 gallons of water per acre at popcorn stage, and repeat on a 7-day interval or as needed. For improved performance, use this product in a tank mix or rotational program with other registered fungicides for powdery mildew control.</p> <p>Scab – Begin application of this product in 50–100 gallons of water per acre at petal fall, and repeat on a 7–10-day interval or as needed. For improved performance, tank mix this product with another fungicide labeled for Scab control.</p> <p>For all other diseases – Begin application prior to disease development when environmental conditions and plant stage are conducive to rapid disease development, and repeat on a 7–10-day interval or as needed. Use in a tank mix or rotational program when disease conditions are severe.</p> <p>Dilute applications: this product can be applied by ground equipment to tree crops in dilute applications of 100–400 gallons of water. Apply this product at a rate of 2–4 quarts per acre when</p>

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
				applied alone, or at 1–4 quarts per acre when tank mixed with another fungicide. Avoid excessive amounts of water that result in the runoff of spray material.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Plant Dip (bare root)	1–4 quarts per 100 gallons of water	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts this product per 100 gallons water) as a pre-plant dip immediately prior to transplanting.
Strawberry	Anthracnose (<i>Colletotrichum</i> spp.) Suppression only Botrytis (<i>Botrytis cinerea</i>) Leaf Spot (<i>Mycosphaerella fragariae</i>) Phomopsis Leaf Blight (<i>Phomopsis obscurans</i>) Powdery Mildew (<i>Sphaerotheca macularis</i>)	Foliar	1–3 quarts per acre	For foliar applications, apply this product preventatively in 50–100 gallons of water per acre at 7–14-day spray intervals or as soon as first symptoms of disease appear. Anthracnose – For suppression, apply this product preventatively in 50–100 gallons of water per acre and repeat on a 7–10-day interval or as needed. For best performance, tank mix this product with other registered fungicides for Anthracnose control. Dilute applications: this product can be applied by ground equipment to strawberries in dilute applications of 100–200 gallons of water. Apply this product at a rate of 2–3 quarts per acre when applied alone, or at 1–3 quarts per acre when tank mixed with another fungicide. Avoid excessive amounts of water that result in the runoff of spray material.
	Black Root Rot (<i>Rhizoctonia</i> spp.) (<i>Pythium</i> spp.) (<i>Fusarium</i> spp.) (<i>Cylindrocarpon</i> spp.)	Plant Dip	1–4 quarts per 100 gallons of water	For plant dip applications for improved plant growth and suppression of soil-borne diseases, apply this product in a 0.25–1% v/v suspension (1–4 quarts per 100 gallons water) as a pre-plant dip to strawberry plants, roots and

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
	Colletotrichum Crown Rot (<i>Colletotrichum</i> spp.)			crowns immediately prior to transplanting.
	Phytophthora Root Rot and Crown Rot (<i>Phytophthora</i> spp.) Verticillium Wilt (<i>Verticillium</i> spp.) <i>Fusarium</i> spp. <i>Pythium</i> spp. <i>Phytophthora</i> spp. <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.	Soil Drench	1–3 quarts per 100 gallons	For soil drench applications, apply this product at a concentration of 1–3 quarts per 100 gallons of water, and at a sufficient rate to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10–14-day interval.
		Chemigation	1–4 quarts per acre	For chemigation applications for improved plant growth and suppression of soil-borne diseases, apply this product through drip irrigation at the rate of 1–4 quarts per acre immediately after transplant and at 14-day intervals or begin 14 days after transplant when plant dip or soil drench applications are used.
REGALIA® PTO has a pre-harvest interval (PHI) of 0 days.				

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Pesticide Storage: Store in a cool, dry place. Avoid freezing.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: Non-refillable 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 ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.



Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <http://www.acrecycle.org/contact> for information on how to arrange pick-up of this empty pesticide container.

WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in strict accordance with the accompanying directions.

Label date: January 21, 2014

Made in the U.S.A.

US Patents No. 4,863,734 and No. 5,989,429

REGALIA[®] is a registered trademark of Marrone Bio Innovations, Inc.

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2121 Second St., Suite B-107, Davis, CA 95618

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info@marronebio.com

SAFETY DATA SHEET**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: **REGALIA[®] PTO** (synonym: MBI-10605)

REGISTRATION NO: 84059-3

MANUFACTURER: Marrone Bio Innovations

ADDRESS: 2121 Second Street, Suite B-107 Davis CA, 95618

EMERGENCY PHONE: INFOTRAC Chemical Response System
US and Canada 1-800-535-5053 (24 hours)
International 1-352-323-3500 (24 hours)

OTHER CALLS: Marrone Bio Innovations 530-750-2800 (9am to 5 pm PST)

FAX PHONE: Marrone Bio Innovations 530-750-2808

PRODUCT USE: Bio-based fungicide

SECTION 2: HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION: This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

EMERGENCY OVERVIEW: Potential eye and skin irritant

HAZARD SYMBOLS:

Pictogram



Signal Word

Warning**HAZARD STATEMENT:**

H316 Causes mild skin irritation
H320 Causes eye irritation

ENVIRONMENTAL HAZARD STATEMENT

H402 Harmful to aquatic life.

PRECAUTIONARY STATEMENTS

Prevention

P261 Avoid breathing fume/mist/vapors/spray
P281 Use personal protective equipment as required.
P284 Wear respiratory protection

Response

P332 + 313 If skin irritation occurs: Get medical attention

SAFETY DATA SHEET

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal
P501 Dispose of in accordance with all applicable local, regional, national, and international regulations.

POTENTIAL ROUTES OF ENTRY: Oral, eye, and inhalation.

CARCINOGENICITY:

OSHA: Not listed ACGIH: Not listed NTP: Not listed. IARC: Not listed

Physical State: liquid Odor: grass-like, spicy Color: brown

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTSACTIVE INGREDIENT:

Reynoutria spp. Extract

CAS NO. None

% WT 5

EXPOSURE LIMITS None Established

OTHER INGREDIENTS:

Water and other inert ingredients; USDA
National Organic Program Compliant

SYNONYM: MBI-106-O5_

SECTION 4: FIRST AID MEASURES

EYES: Hold eye open and rinse slowly and gently with water for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Do not use an eye ointment. Call poison control center or doctor for treatment advice.

SKIN: Remove contaminated clothing. Rinse skin immediately with plenty of water for at least 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: 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 by a poison control center or physician. Do not give anything by mouth to an unconscious person.

INHALATION: Remove person to fresh air. If the 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 treatment.

SECTION 5: FIRE-FIGHTING MEASURES**FLAMMABLE LIMITS IN AIR, (% BY VOLUME)**

UPPER: Not applicable.

LOWER: Not applicable.

IGNITABILITY: 205 °F or 96 °C

SAFETY DATA SHEET

METHOD USED: METHOD USED: SW 1010

AUTOIGNITION TEMPERATURE: Not applicable.

NFPA HAZARD CLASSIFICATION

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

HMIS HAZARD CLASSIFICATION

HEALTH: 1

FLAMMABILITY: 1

REACTIVITY: 0

EXTINGUISHING MEDIA: Use Foam, Carbon Dioxide, or Dry Chemical extinguishers.

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, smoke, fumes, and hydrocarbons and terpenes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Wear suitable clothing such as eye protection, long-sleeved shirt, pants and shoes with socks. If spilled, contain - prevent run off into drains and waterways. Absorb liquid with an inert absorbent material. Seal absorbent material in a closed labeled container and dispose of in accordance with local ordinances.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store in the closed, original container in a well-ventilated area out of direct sunlight. Keep containers closed when not in use. Empty container completely and dispose of in accordance with all applicable federal, state and local environmental regulations.

OTHER PRECAUTIONS: No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Spill controls should be provided for working with large quantities.

VENTILATION: No TLV assigned. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and aerosols below the exposure levels. Ensure that eyewash stations and safety showers are proximal to the work-station location.

RESPIRATORY PROTECTION: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

EYE PROTECTION: Safety goggles or glasses with side shields advisable when handling liquid.

SKIN PROTECTION: Wear gloves made of Latex or other impervious material.

SAFETY DATA SHEET

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Clothing to prevent prolonged skin contact as needed such as long-sleeved shirt, long pants and shoes with socks.

WORK HYGIENIC PRACTICES: Wash any contamination from skin or eyes immediately. Wash hands and exposed skin before eating, drinking, smoking, after work, or using the toilet.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Brown
ODOR:	Straw-like; spicy
pH:	5.0- 6.0
DENSITY:	1.0 g/ml
SOLUBILITY IN WATER:	Miscible in water
BOILING POINT/RANGE:	Not determined
FREEZING/MELTING POINT:	Not determined
FLASH POINT:	Not determined
EVAPORATION RATE:	Not determined
FLAMMABILITY (SOLID. GAS):	Not determined
UPPER FLAMMABILITY LIMITS:	Not determined
LOWER FLAMMABILITY LIMITS:	Not determined
VAPOR PRESSURE:	Not determined
VAPOR DENSITY:	Not determined
RELATIVE DENSITY:	Not determined
SOLUBILITY IN OTHER SOLVENTS:	Not determined
PARTITION COEFFICIENT:	Not determined
AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined
KINEMATIC VISCOSITY:	Not determined
DYNAMIC VISCOSITY:	Not determined
EXPLOSIVE PROPERTIES:	Not determined
OXIDIZING PROPERTIES:	Not determined

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable.

INCOMPATIBILITY (MATERIAL TO AVOID): None known

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None known

HAZARDOUS POLYMERIZATION: Not known to occur

CONDITIONS TO AVOID (POLYMERIZATION): None

SECTION 11: TOXICOLOGICAL INFORMATION

WARNING: This product causes eye irritation. This product causes mild skin irritation.

ACUTE ORAL TOXICITY LD₅₀: >5000 mg/kg (rat). Category 4

ACUTE DERMAL TOXICITY LD₅₀: >5000 mg/kg (rabbit). Category 4

SAFETY DATA SHEET

ACUTE INHALATION LC ₅₀ :	>2.11 mg/L (rat). Category 4
EYE IRRITATION:	Minimally irritating (rabbit). Category 2B
SKIN IRRITATION:	Slightly irritating (rabbit). Category 3
SKIN SENSITIZATION:	Non-sensitizing (guinea pigs). Category 4

SECTION 12: ECOLOGICAL INFORMATION

This product poses acute toxicity to freshwater fish.

Avian Acute Oral Toxicity:	Bobwhite quail. LD ₅₀ >2000 mg/kg-bw. Non-toxic. Category 5
Toxicity to freshwater aquatic life:	Fathead minnow (96-hour acute) LC ₅₀ > 10.18 mg/L. Category 3 Rainbow trout (96-hour) EC ₅₀ = 17.885 mg/L Category 3 <i>Daphnia magna</i> (48-hour acute) EC ₅₀ = 50.0 mg/L AI. Category 3 Freshwater algae (72-hour acute) EC ₅₀ = 54.61 mg/L Category 3

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

Minimize 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 areas, woodlands, pastures, rangelands, or animals.

Bioconcentration potential: This material is not expected to bioconcentrate in organisms.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not reuse containers. Dispose of in accordance with all applicable federal, state, and local environmental regulations.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT: Not Regulated

IATA DGR: Not regulated

IMDG: Not Regulated

Freight Classification: Fungicide. See NMFTA code.

SECTION 15: REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazardous information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

SAFETY DATA SHEET**CAUTION**

Causes moderate eye irritation

INTERNATIONAL REGULATIONS

TSCA: Exempt

U.S. FEDERAL REGULATIONS

CERCLA: Not applicable.

SARA TITLE III HAZARD CLASSIFICATION SECTIONS 311 AND 312:

Immediate (acute) Health: None

Delayed (chronic) Health: None

Fire: None

Sudden Release of Pressure: None

Reactivity: None

SARA 313: Not determined

U.S. STATE REGULATIONS: None

US STATE RIGHT-TO-KNOW REGULATIONS: None

SECTION 16: OTHER INFORMATION

SPECIAL HAZARDS: Not Determined

Date Issued:	18 July 2014
Revision Date:	2
Revision Note:	Edited sections 2 and 12

DISCLAIMER: IN NO EVENT SHALL MARRONE BIO INNOVATIONS BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES. THE DATA PROVIDED IS FOR GENERAL INFORMATION ONLY AND IS NOT INTENDED AS A COMPREHENSIVE GUIDE CONCERNING HAZARDS THAT MAY BE ASSOCIATED WITH THIS PRODUCT. USER ASSUMES ALL RESPONSIBILITY FOR FOLLOWING PROPER SAFETY PROTOCOL AND CONSULTING TRAINED PERSONNEL FOR CONTROL AND CONTAINMENT.

RHAPSODY®



AN AQUEOUS SUSPENSION BIOFUNGICIDE
FOR USE ON LANDSCAPE PLANTS, TURF, LAWNS, SOD, GOLF COURSES
(GREENS, TEES, FAIRWAYS AND ROUGHS)

ACTIVE INGREDIENT

QST 713 strain of *Bacillus subtilis* .. 1.34%

INERT INGREDIENTS .. 98.66%

Total100.00%

Contains a minimum of 1×10^9 CFU/g

EPA Reg. No. 69592-19

EPA Est. No. 69592-MEX-1

U.S. Patent Nos. 6,060,051, 6,103,228, 6,291,426 and 6,417,163 on QST 713 strain of *Bacillus subtilis*



Can be Used for Organic Production



US014-B-005

AQ1351-005

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID:

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. Have the product label with you when calling a doctor or poison control center.

PRECAUTIONARY STATEMENTS – Agricultural Use

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if inhaled. Avoid breathing spray mist. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- NIOSH approved respirator with any N, R, P or HE filter

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are available, use detergent and hot water for washables. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (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.

ENVIRONMENTAL HAZARDS – Agricultural Use

Do not apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Do not apply when weather conditions favor drift or runoff from treated areas.

DIRECTIONS FOR USE – Agricultural Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your state or tribe, consult the state or tribal agency responsible for pesticide regulation.

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 emergencies such as leaks or spills, call 24-hour toll-free CHEMTREC hotline at 1.800.424.9300.

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 intervals. 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 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, waterproof gloves, shoes plus socks.

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.

STORAGE AND DISPOSAL – Agricultural Use

Do not contaminate water, food, or feed by storage and disposal.

STORAGE: Store in a dry area inaccessible to children. Store in original containers only. Keep container closed when not in use.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water when disposing of equipment rinsate.

CONTAINER DISPOSAL:

For 2.5-gallon plastic containers –

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 mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available.

For 30-gallon plastic containers–

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 mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Offer for recycling, if available.

For 110-gallon or larger returnable mini-bulk containers –

Return empty container for reuse. Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

GENERAL USE INFORMATION – Agricultural Use

Rhapsody® is an effective broad spectrum, preventative biofungicide for the control of many important foliar and soil-borne diseases. Rhapsody is an ideal resistance management tool given its unique, multiple modes of action. It may be applied as a foliar spray or soil drench alone, in alternating spray programs or in tank mixes with other registered crop protection products. For maximum effectiveness, apply Rhapsody prior to or in the early stages of disease development. When conditions are conducive to heavy disease pressure, use Rhapsody in a rotational program with other registered fungicides. Rhapsody may be applied with spray equipment

commonly used for making ground or aerial applications and sprinkler/irrigation systems commonly used for chemigation. Rhapsody can be used for organic production.

INTEGRATED PEST MANAGEMENT (IPM)

For disease resistance management, integrate Rhapsody into an overall disease and pest management strategy whenever fungicide use is necessary. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

Be sure use of this product conforms to resistance management strategies, which may include rotating and/or tank-mixing with other products with different modes of action.

USE RATE DETERMINATION – Agricultural Use

Carefully read and follow all label directions, use rates and restrictions. Apply Rhapsody prior to or in the early stages of disease development. Use maximum label rates and shortened spray intervals for conditions conducive to rapid disease development. For proper application, determine the area to be treated, the recommended label use rate and select appropriate spray volume to give good canopy penetration and coverage of plant parts to be protected. Prepare only the amount of spray solution required to treat the measured acreage. Accurate spray equipment calibration is essential prior to use.

PREHARVEST INTERVAL – Agricultural Use

Rhapsody can be applied up to and including the day of harvest.

APPLICATION INSTRUCTIONS – Agricultural Use

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. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

GROUND: Be sure to maintain agitation during mixing and application to assure uniform product suspension. Thorough coverage of all foliage is essential for effective disease control. Rhapsody can be applied in commonly used ground equipment, hose-end, pressurized, and hand-held sprayers. To achieve good coverage use proper spray pressure, gallonage 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 label for general directions and precautions. Use the application rate indicated for the appropriate crop in sufficient water to achieve thorough coverage, or a minimum of 3 gallons of water per acre.

CHEMIGATION: This product can be applied through sprinkler or drip type irrigation systems, including a center pivot, lateral move, end tow, side wheel roll, traveler, solid set, and hand move. Refer to the Chemigation Directions for Use section of this label for general directions and precautions. Use the application rate indicated for the appropriate crop as specified in the Use Recommendations section of this label.

MIXING INSTRUCTIONS – Agricultural Use

MIXING: Rhapsody must be diluted with water for spray applications. Partially fill the spray tank with clean water and begin agitation. Add the specified amount of Rhapsody to the tank. Finish filling the tank to the desired volume to obtain the proper spray concentration. It is critical that the spray solution be agitated during mixing and application to assure a uniform suspension. Do not allow the spray mixture to stand overnight or for prolonged periods. Maintain a spray solution pH between 4.5 and 8.5.

Rhapsody may be tank-mixed with other registered fungicides to enhance plant disease control. Do not exceed recommended dosage rates. Rhapsody cannot be mixed with any product with prohibition against such mixing. Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions.

COMPATIBILITY: Do not combine Rhapsody in the spray tank with pesticides, surfactants or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective and non-injurious under your use conditions.

Rhapsody is compatible with many commonly used pesticides, fertilizers, adjuvants and surfactants but has not been fully evaluated with all of these. To ensure compatibility of tank-mix combinations they should be evaluated prior to use, as follows: Using a suitable container add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by liquid flowables and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application.

ADDITIVES: Rhapsody is compatible with a wide range of additives. Since the product is primarily a protectant, thorough coverage of all above-ground plant parts is required for effective product performance. To improve plant surface coverage, it is recommended to add a non-phytotoxic adjuvant to spray tank.

CHEMIGATION DIRECTIONS FOR USE

General Requirements:

- 1) Apply this product only through sprinkler or drip type irrigation systems including center pivot, lateral move, end tow, side wheel roll, traveler, solid set or hand move systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.
- 3) Ensure that the irrigation system used is properly calibrated and if you have questions, call the State Extension Service specialists, the equipment manufacturer or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make any necessary adjustments should the need arise.

Equipment Requirements:

- 1) Public water supply means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of 25 individuals daily at least 60 days throughout the year.
- 2) Chemigation systems connected to the public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer or the functional equivalent in the water supply upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top of the overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 4) The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back towards the injection pump.
- 5) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 6) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 7) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 8) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 9) Do not apply when wind speed favors drift beyond the area intended for treatment.

Application Instructions:

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Do not combine Rhapsody with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. Rhapsody has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if mixture with adjuvants or surfactants is planned.

Center-pivot, Lateral Move, End Tow, and Traveler Irrigation Equipment (Use only with electric or oil hydraulic drive systems which provide a uniform water distribution):

- Determine size of area to be treated.
- Determine the time required to apply no more than 1/4 inch of water (6,750 gallons water per acre) over the area to be treated when the system and injection equipment are operated at normal pressures recommended by the equipment manufacturer. Run system at 80 to 95% of manufacturer's rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Rhapsody fungicide required to treat area.
- Add required amount of Rhapsody fungicide and sufficient water to meet the injection time requirements of the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until Rhapsody fungicide solution has cleared the sprinkler head.

Solid-set, Side (wheel) Roll, and Hand Move Irrigation Equipment:

- Determine acreage covered by sprinkler.
- Fill injector solution tank with water and adjust flow rate to use contents over a 10- to 30-minute interval.
- Determine the amount of Rhapsody fungicide required to treat area.
- Add the required amount of Rhapsody fungicide into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures recommended by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Rhapsody fungicide at the end of the irrigation cycle or as a separate application to maximize foliar fungicide retention.

- Stop injection equipment after treatment is completed. Continue to operate the system until Rhapsody fungicide solution has cleared the last sprinkler head.

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 determine 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. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

INFORMATION ON DROPLET SIZE: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

CONTROLLING DROPLET SIZE: Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure -Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. # of Nozzles - Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

BOOM WIDTH: For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3 -- 10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or the crop canopy.

APPLICATION HEIGHT: Do not make application at a height greater than 10 feet above the top of the largest 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 downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

WIND: Drift potential is lowest between wind speeds of 2 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 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 spray drift.

TEMPERATURE AND HUMIDITY: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS: Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS: The pesticide should only be applied 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). Do not allow spray 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 areas, woodlands, pastures, rangelands, or animals.

FOR USE ON LANDSCAPE PLANTS, TREES, TURF, LAWNS, SOD, GOLF COURSES (GREENS, TEES, FAIRWAYS AND ROUGHS), SEEDLINGS, CONIFERS -Agricultural, Commercial, Residential Use and Reforestation

Rhapsody is a protectant fungicide for use outdoors for control of certain foliar diseases in the field, interiorscape, residential and commercial landscapes, golf courses (greens, tees, fairways and roughs), forests, and forestry seedling production sites.

Rhapsody can be applied to landscape plants and trees, forestry seedlings, turf, lawns, sod, golf courses (greens, tees, fairways and roughs) and conifer production for reforestation purposes (greenhouses, shade houses, nurseries, indoors, outdoors, containers or field).

Foliar Application Use on, Landscape Plants, Trees, Seedlings, Conifers:

APPLICATION INSTRUCTIONS: Apply Rhapsody at rates ranging from 2 to 8 quarts of product in 100 gallons of water per acre. Make applications on a 3 to 10 day schedule. Begin applications when conditions favor disease development prior to the onset of disease.

Under normal conditions apply Rhapsody at a rate of 4 quarts of product per 100 gallons of spray solution per acre on a 7-day schedule. When conditions favor severe disease development shorten the spray interval or use a higher rate. Thorough coverage is essential for effective disease control. When more diluted or concentrated spray solutions are needed for the type of equipment being used, follow the "Use Determination" section of this label. See application rate tables for more detailed application instructions.

PLANTS EVALUATED FOR PHYTOTOXICITY

Rhapsody has been tested for phytotoxicity on the ornamental species listed below. Since it is impossible to test all of the species and cultivars listed on this label under all conditions it is recommended that a small-scale preliminary trial be conducted to check for sensitivity before using this product on a large number of plants, using the product in accordance with all label use directions.

TABLE 1

Annual and Perennial Flowering Plants:

Alyssum	Asters	Azalea	Begonia	Calla lily	Chrysanthemum	Cyclamen
Dianthus	Dwarf Bee-Balm	Easter lily	Garden phlox	Geraniums	Gerbera	Golden Star
Hydrangea	Impatiens	Kalanchoe	Linaria	Lisianthus	Lobelia	Marigolds
Orchids	Pansies	Petunia	Poinsettia	Portulaca	Ranunculus	Roses
<i>Salvia</i> spp.	Snapdragons	Stock	<i>Verbena</i> spp.	Vinca	Violas	Zinnias

Tropical foliage:

Aglaonema	Dieffenbachia	<i>Dracaena</i> spp.	English Ivy	Hibiscus	Leatherleaf Fern	Spathiphyllum
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Trees and Shrubs:

Azalea	Boxwood	Crape myrtle	Dogwood	Gumpo azalea	India (Indian) Hawthorn	Japanese maple
<i>Ligustrum japonicum</i>		Lilac	Loropetalum	Photinia	Rhododendron	<i>Rosaceae</i> spp.
Soft Touch Holly	Spirea					

FOR USE AS SOIL DRENCH on Landscape Plants, Trees, Seedlings, Conifers: Agricultural, Commercial, Residential Use, Outdoors

Rhapsody is a broad spectrum biofungicide for the prevention, suppression and control of soil borne diseases on a wide range of landscape plants and trees, and in conifer production. Rhapsody enhances germination and plant growth by suppressing diseases caused by Rhizoctonia, Pythium, Fusarium and Phytophthora.

APPLICATION INSTRUCTIONS: Mix 128 fl oz to 256 fl oz of Rhapsody with 100 gallons of water. Use higher application rates under conditions of heavy disease pressure. Apply finished mixture at a rate to thoroughly soak the growing media through the root zone (1 pint / sq. ft. for each 3 inches of soil depth) as a drench or directed spray using hand held, mechanical or motorized spray equipment, or as a chemigation drench or directed spray using applicable sprinkler irrigation systems. Begin applications during or after seeding, sticking of cuttings or after transplanting to propagation beds, containers, pots or trays. Optimal performance is obtained with preventative treatments repeated every 21 – 28 days throughout the growing cycle. Rhapsody can be mixed with chemical fungicides registered for soil applications.

See application rate tables for more detailed application instructions.

FOR USE ON TURF, LAWNS, SOD, GOLF COURSES (GREENS, TEES, FAIRWAYS AND ROUGHS), ORNAMENTAL TURF- Agricultural, Commercial, Residential Use

Rhapsody is a broad spectrum biofungicide for use in the prevention, suppression and aiding in control of turf and lawn diseases: brown patch, dollar spot, powdery mildew, rust and anthracnose.

Turf, Lawns, Sod, Greens, Ornamental Turf Use:

APPLICATION INSTRUCTIONS: Apply at the rate of 2.0 to 10.0 fl oz of Rhapsody per 1000 sq. ft. of surface area. Apply in sufficient water to provide thorough coverage, depending on the application equipment. Two gallons of water per 1000 sq. ft of surface is commonly used.

See application rate tables for more detailed application instructions.

Application Rates for Use as a Foliar Spray on Landscape Plants and Trees

Rhapsody has a 0-Day PreHarvest Interval for all crops contained on this label.

Under moderate to severe disease pressure, for improved performance, increase rates and reduce spray intervals or use Rhapsody in a tank mix or rotational program with other registered fungicides.

Crops	Disease	Rate* qts/100 gallons spray mix	Application Instructions
Landscape plants and Trees Outdoors Fields Annuals Perennials Bedding plants Potted flowers Foliage plants Deciduous trees Deciduous shrubs Tropical foliage Container grown plants Conifer production for reforestation purposes	Anthracnose <i>Colletotrichum</i> spp. Bacteria <i>Erwinia</i> spp. <i>Pseudomonas</i> spp. <i>Xanthomonas</i> spp. Black spot of rose <i>Diplocarpon rosea</i> Botrytis <i>Botrytis cinerea</i> Downy Mildew <i>Peronospora</i> spp. Leaf spots <i>Alternaria</i> spp. <i>Cercospora</i> spp. <i>Entomosporium</i> spp. <i>Helminthosporium</i> spp. <i>Myrothecium</i> spp. <i>Septoria</i> spp. Powdery mildew <i>Erysiphe</i> spp. <i>Oidium</i> spp. <i>Podosphaera</i> spp. <i>Sphaerotheca</i> spp. Phytophthora spp. Rust <i>Puccinia</i> spp. Scab <i>Venturia</i> spp.	2 - 8	<p>Outdoors, Field: Apply Rhapsody at rates ranging from 2-8 quarts of product in 100 gallons of water per acre. Make applications on a 3- to 10-day schedule. Begin applications when conditions favor disease development prior to the onset of disease.</p> <p>Under normal conditions apply Rhapsody at a rate of 4 quarts of product per 100 gallons of spray solution per acre on a 7-day schedule. When conditions favor severe disease development shorten the spray interval or use a higher rate. Thorough coverage is essential for effective disease control. When more diluted or concentrated spray solutions are needed for the type of equipment being used, follow the "Use Determination" section of this label.</p>

Application Rates for Soil Drench Uses in the Field

Rhapsody has a 0-Day PreHarvest Interval for all crops contained on this label.

Under moderate to severe disease pressure, for improved performance, increase rates and reduce spray intervals or use Rhapsody in a tank mix or rotational program with other registered fungicides.

Crops	Disease	Rate* qts/100 gallons spray mix	Application Instructions
Ornamentals Trees Landscape plants Shrubs Annuals Perennials Flowering plants Tropical plants Bedding plants Container plants Potted plants Foliage plants Deciduous trees Deciduous shrubs Forestry Seedlings Conifer production for reforestation purposes	Rhizoctonia spp. Pythium spp. Fusarium spp. Phytophthora spp.	4 - 8	<p>Soil Drench Field Uses:</p> <p>Mix 128 fl oz to 256 fl oz of Rhapsody with 100 gallons of water. Use higher application rates under conditions of heavy disease pressure.</p> <p>Apply finished mixture at a rate to thoroughly soak the growing media through the root zone (1 pint / sq. ft. for each 3 inches of soil depth) as a drench or directed spray using hand held, mechanical or motorized spray equipment, or as a chemigation drench or directed spray using applicable sprinkler irrigation systems. Begin applications during or after seeding, sticking of cuttings or after transplanting to propagation beds, containers, pots or trays. Optimal performance is obtained with preventative treatments repeated every 21 – 28 days throughout the growing cycle. Rhapsody can be mixed with chemical fungicides registered for soil applications.</p>

* Rate presented in quarts/100 gallons of spray mix unless otherwise noted.

Application Rates for Turf, Lawns, Sod, Golf Courses (Greens, Tees, Fairways and Roughs), Ornamental Turf

Rhapsody has a 0-Day PreHarvest Interval for all crops contained on this label.
Under moderate to severe disease pressure, for improved performance, increase rates and reduce spray intervals or use Rhapsody in a tank mix or rotational program with other registered fungicides.

Crops	Disease	Rate* fl oz/1000 sq. ft of surface area	Application Instructions
Turf, Sod, Lawns, Golf Course, (Fairways, Roughs Greens, Tees) Seed production grasses, turf, etc. Bluegrass Bentgrass Bermuda grass (Common & Hybrid) Dichondra Fescue Orchard grass Poa Annua St. Augustine Ryegrass Zoysia Mixtures and other grasses or ornamental turf	Brown patch <i>Rhizoctonia solani</i> Dollar Spot <i>Lanzia</i> spp. <i>Moellerodiscus</i> spp. (formerly <i>Sclerotinia</i> <i>homeocarpa</i>) Powdery Mildew <i>Erysiphe graminis</i> Rust <i>Puccinia</i> spp. Anthracnose <i>Colletotrichum</i> <i>graminicola</i> Grey Leaf Spot** <i>Pyricularia grisea</i>	2.0 - 10 fl oz	Apply at the rate of 2.0 to 10.0 fl oz of Rhapsody per 1000 sq. ft. of surface area. Apply in sufficient water to provide thorough coverage, depending on the application equipment. Two gallons of water per 1000 sq. ft of surface is commonly used. Begin applications when conditions are conducive to disease development. Continue applications on 7 to 10 day intervals or as needed. Under moderate to severe disease pressure, for improved performance, increase rates and reduce spray intervals or use Rhapsody in a tank mix or rotational program with other registered fungicides. Aids in control of brown patch, dollar spot, powdery mildew, rust and anthracnose.

*Rate presented in fl oz /1000 sq. ft of surface area unless otherwise noted.

** NOT FOR USE IN CALIFORNIA

CONDITIONS FOR SALE AND WARRANTY

AgraQuest warrants to those persons lawfully purchasing this product that at the time of the first sale of this product by Seller that this product conformed to its description and was reasonably fit for the purposes stated on the label when used in accordance with Seller's directions. Buyers and users of this product assume the risk of any use contrary to such directions. EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESS REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OR GUARANTY, INCLUDING ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO. Except to the extent prohibited by applicable law, AgraQuest offers this product with the following conditions: 1) buyers and users of this product assume the risk of any storage, handling or use contrary to AgraQuest's label and directions and 2) AgraQuest's liability shall in no case exceed the purchase price of the applicable AgraQuest product.

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L i s t e d

[This label replaces US014-04 (AQ1351-004)]

SECTION 4: FIRST AID MEASURES

General: Remove from source of exposure. If irritation or other signs of toxicity occur, seek medical attention.

Eyes: Hold eye open and rinse slowly and gently with plenty of water for at least 15 minutes. If present, remove contact lenses and continue rinsing eye.

Skin: Remove contaminated clothing. Thoroughly wash skin with plenty of soap and water.

Inhalation: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration.

Ingestion: Call a doctor immediately if a large amount is swallowed. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person.

Note to Physicians and First Aid Providers: This product has low oral, dermal, and inhalation toxicity. Direct contact with eyes may cause temporary irritation. Provide symptomatic and supportive care as necessary.

SECTION 5: FIRE-FIGHTING MEASURES

General: Use methods and protective gear that are appropriate for the conditions and size of the fire.

Extinguishing Media: Use appropriate media for underlying cause and combustibles involved in the fire.

Special Equipment: Self-contained breathing apparatus and full protective gear according to the conditions and size of the fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear suitable protective clothing such as long-sleeved shirt, pants, waterproof gloves and shoes with socks.

Methods for Clean Up: Carefully mop or sweep up spill and place in a closed container for disposal. Rinse area with water.

Section 6 Notes: Refer to section 8 for personal protection and section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

Handling: Use handling procedures that minimize exposure to the product.

Storage: Store in a cool, dry, well-ventilated place in original container. Keep container closed when not in use. Do not contaminate other pesticides, fertilizers, water, or feed by storage or disposal.

Section 7 Notes: Avoid contact with skin, eyes and clothing. Avoid inhalation of spray mist. Wash any contamination from skin or eyes immediately. Wash hands and exposed skin before eating, drinking, smoking or using the toilet.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

General: Protective clothing should be selected according to the conditions likely to be encountered in the workplace. Ensure good ventilation. No exposure limits have been established.

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to reduce airborne exposure at locations/operations where spray mist may be generated.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION continued

Personal Protective Equipment:

Respiratory:	Not normally required. However, if needed, use a dust/mist filtering face mask or respirator.
Eyes and Face:	Chemical safety goggles or safety glasses with side shields.
Hands/Skin:	Gloves made from chemically resistant material such as neoprene, vinyl, rubber, or nitrile.
Other Clothing:	Wear suitable protective clothing such as long-sleeved shirt, pants, and shoes with socks.
Hygienic Practices:	Wash hands and exposed skin before eating, drinking, smoking or using the toilet.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light to medium brown aqueous dispersion
Odor:	Sweet, earthy odor
Melting Point:	Not Applicable
Boiling Point:	$\geq 100^{\circ}\text{C}$ ($\geq 212^{\circ}\text{F}$)
Density:	$1.0 - 1.3\text{ g/cm}^3$
Solubility in Water:	Dispersible in water
pH as Supplied:	4.8 – 6.0

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable, material is non-reactive.
Conditions to Avoid:	None that are known.
Materials to Avoid:	None that are known.
Hazardous Decomposition Products:	None that are known.
Hazardous Polymerization:	Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Possible Routes of Entry: Inhalation, eyes, and skin

Potential Health Effects from Over-exposure

Skin/ Eye Irritation:	Direct contact with skin or eyes may cause slight to mild irritation in some individuals.
Inhalation:	Inhalation of spray mist may cause respiratory tract irritation in some individuals.

Acute studies on a similar formulation:

Acute Oral LD ₅₀ (Rat):	> 5,000 mg/kg	Eye Irritation (Rabbit):	Nonirritant
Acute Dermal LD ₅₀ (Rabbit):	> 5,000 mg/kg	Dermal Irritation (Rabbit):	Nonirritant
Acute Inhalation LD ₅₀ (Rat):	> 1.4 mg/L (Limit test)*		

Section 11 Notes: None of the components of this product are listed as carcinogenic by NTP, IARC, or OSHA.
* 1.4 mg/L was the maximum attainable aerosol concentration for this test due to the physical nature of the product. No deaths or toxic effects were observed in the test animals during the study period.

SECTION 12: ECOLOGICAL INFORMATION

Ecological Information: With regard to environmental fate and behavior this product is not expected to impose any environmental risk.

Ecotoxicity Information: Tests with the technical active ingredient in various aquatic and terrestrial vertebrates and invertebrates showed this product to be non-toxic to all the species tested.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Method: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, one acceptable method of disposal is to incinerate in accordance with local, regional, and national environmental regulations.

Empty Container: Completely empty container into application equipment, rinse with water and add rinsate to application equipment. Dispose of empty container in accordance with applicable environmental regulations.

Section 13 Notes: Regulatory requirements are subject to change and acceptable methods of disposal may vary by location. The appropriate agencies should be contacted for advisement prior to disposal.

SECTION 14: TRANSPORT INFORMATION

Land:	ADR / RID Class:	Not controlled under ADR (Europe)
Water:	IMDG Class:	Not controlled under IMDG
Air:	IATA – DGR Class:	Not controlled under IATA
Other:	U.S. DOT:	Not Regulated
	Freight Classification:	Insecticides, Fungicides N.O.I., Other Than Poisons. NMFC 155050 Class 60
	Canadian TDG:	Not regulated under Canadian Transport of Dangerous Goods Regulations

SECTION 15: REGULATORY INFORMATION

Labeling According to EC Directives:

Symbol:	Not Required
R-phrases:	Not Required

S-phrases: (Recommended)	S 2 Keep out of reach of children
	S 20/21 When using do not eat, drink or smoke
	S 24/25 Avoid contact with skin and eyes
	S 29/35 Do not empty into drains; dispose of this material and its container in a safe way

U.S. EPA SARA: (Title III Classification)	No acute or chronic health hazards. No fire, release of pressure, or reactivity hazards.
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US:	EPA Reg. No. 69592-19
Canada:	PCP No. 28627

SECTION 16: OTHER INFORMATION

Reason for Revision:	Removed synonyms	Supersedes MSDS dated: June 21, 2010
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