

70051-2

5/11/2004

Page 1 of 15

Please read instructions on reverse before completing form.

Form Approved, OMB No. 2070-0060, Approval expires 2-28-95



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other Notification

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number 70051-2	2. EPA Product Manager /Branch Chief Sheryl Reilly	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Neem Oil 70%	PM# Biochemical Pesticides Branch	
5. Name and Address of Applicant (Include ZIP Code) Certis USA, L.L.C. 9145 Guilford Road, Suite 175 Columbia, Maryland 21046 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b> Date Reviewed: <u>11 May 04</u> Reviewed By: <u>MDUGGARD</u>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application	
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

clarified phrase on page 4 under Application Instructions to read "Apply until plant surface is uniformly wet with minimal runoff..." instead of "Apply to runoff...". This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA. Three copies of final printed labeling for the alternate brand names, Trilogy and Triact 70EC are also included in this submission.

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Christine A. Dively	Title Director of Regulatory Affairs	Telephone No. (include Area Code) 301-483-3806
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <i>Christine A. Dively</i>	3. Title Director of Regulatory Affairs	
4. Typed Name Christine A. Dively	5. Date <i>April 5, 2004</i>	



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Certis USA  
9145 Guilford Road  
Suite 175  
Columbia, MD 21046  
**(301) 604-7340**  
FAX (301) 604-7015  
[www.certisusa.com](http://www.certisusa.com)

April 7, 2004

Dr. Sheryl Reilly  
Branch Chief, Biochemical Pesticides Branch  
Biopesticides and Pollution Prevention Division (7511C)  
Office of Pesticide Programs  
US Environmental Protection Agency  
1921 Jefferson Davis Highway  
Arlington, VA 22202

**Re: Final printed labeling and Notifications for Certis USA, L.L.C.,  
EPA Co. No. 70051**

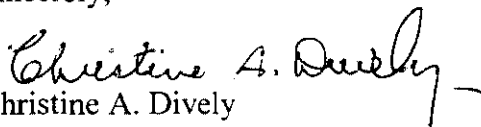
Dear Dr. Reilly:

Certis USA, L.L.C. is respectfully submitting the enclosed final printed labeling that incorporates minor revisions (Notifications) for the following product labels:

- 1) Trilogy and Triact 70EC (Neem Oil 70%), EPA Reg. No. 70051-2
- 2) Trilogy XL, EPA Reg. No. 70051-75
- 3) Trilogy XL RTU, EPA Reg. No. 70051-74
- 4) Neemix 4.5 (Superneem 4.5-B), EPA Reg. No. 70051-9

Enclosed in support of this action are: EPA Form 8570-1, a copy of the previously approved label with changes highlighted, and 3 copies of each final printed label with incorporated changes. No other changes have been made to these labels. Please do not hesitate to contact me if you have any questions about this submission. I can be reached by telephone at 301-483-3806 or by email at [cdively@certisusa.com](mailto:cdively@certisusa.com).

Sincerely,

  
Christine A. Dively  
Director of Regulatory Affairs

Enclosures

3 8 15  
NOTIFICATION

Date Reviewed: 11 May 04

**MASTER LABEL** Reviewed By: MDuggard

This master label bears directions for agricultural, commercial and homeowner use with various application rates specific to the associated container size.

The following Alternate Brand Names have been submitted to the Agency under this Master Label:  
Trilogy, Triact 70EC, Trilogy PHC, Ferti-lome Rose, Flower & Vegetable Spray, Ferti-lome Triple Action Plus, Neem Concentrate, Garden Safe Fungicide 3 Concentrate

# Neem Oil 70%

Fungicide/Miticide/Insecticide

FOR ORGANIC PRODUCTION



**For Indoor/Outdoor Use on Ornamental Flowering Plants, Trees, Shrubs, Foliage, Vegetables, Fruits, Nuts, Agronomic Crops and Melons, and Row Crops Grown on Commercial Farms and Nurseries, Greenhouses, Landscapes and Homes and Residential Landscapes**  
**Controls Fungal Diseases Including Black Spot, Mildews, Rusts, and Scab**  
**Kills Mites and Insects Including Whiteflies, Aphids, and Scales**  
**For Foliar Control of Fungal Diseases and Insect Pests**

**ACTIVE INGREDIENT:**

Clarified Hydrophobic Extract of Neem Oil ..... 70%

**INERT INGREDIENTS** ..... 30%

**TOTAL** ..... 100%

This product contains 5.46 lb of clarified hydrophobic extract of neem oil per US gallon.

This container will treat up to 0.5 acres when used at the highest application rate (only for containers less than 5 gallons).

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**Net Contents:** 2.5 gallons, 100 gallons

Lot No.:

EPA Reg. No. 70051-2

EPA Est. No. 70051-CA-001

Composition covered by US Patents 5,298,251; 5,356,629; 5,372,817; 5,405,612; and 5,409,708.

Manufactured by

Certis USA, L.L.C.

9145 Guilford Road, Suite 175

Columbia, MD 21046

**CERTIS**

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Harmful if absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

# **FIRST AID**

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

**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 going for treatment.

Hot Line Number: 1-800-255-3924.

## **Personal Protective Equipment:**

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

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

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or Viton.
- Shoes plus socks.

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.

## **User Safety Recommendations:**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- 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/Commercial Use**

This product is hazardous to fish and aquatic invertebrates.

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. Do not contaminate water when disposing of equipment washwater or rinsate.

### **Homeowner Use**

Do not apply directly to water. Do not contaminate water when disposing of equipment washwaters or rinsate.

### **BEE HAZARD**

This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area.

### **PHYSICAL AND CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

**IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.**

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

**General Information:**

- Kills eggs, larvae, and adult insects.
- Prevents and controls black spot on roses, anthracnose, rust and powdery mildew.
- Kills insects and their eggs.
- Formulated for interiorscape use.
- Shake well before using.
- For best results, maintain constant agitation in spray equipment.
- For optimal performance, do not mix with cold water (less than 45°F).
- Use spray solutions within several hours of preparation for maximum effectiveness. Do not store diluted solution for later use.
- Do not apply to wilted or otherwise stressed plants, or to newly transplanted materials or crops prior to root establishment.
- Do not apply to known sensitive plant species, such as impatiens flowers, fuchsia flowers, hibiscus flowers, some rose flowers, ornamental olive trees, or some carnation varieties without prior testing.
- When used in conjunction with beneficial insects, conduct a small trial to assure compatibility before using on a large scale.
- As with other oil-based products, exercise care in timing applications to early morning/late evening to minimize the potential for leaf burn.
- Use with care on plants with tender tissue. Check for leaf burn in small scale trials prior to use.
- Thorough coverage is necessary to provide good disease and mite control. Neem Oil 70% prevents fungal attack of plant tissue and contact activity to mite pressure on the plant. Avoid excessive runoff of spray material for maximum control.

**Agricultural/Commercial Use**

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow 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
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinyl chloride (PVC) or Viton.
- Shoes plus socks.

**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.

**TANK MIXING:** Neem Oil 70% has been found to be compatible with most commonly used fungicides, insecticides and fertilizers. Check physical compatibility first with other products before mixing by using a jar test. Using a quart jar, add the proportionate amounts of the products to 1 quart of water. After thoroughly mixing, let mixture stand for at least 5 minutes. Growers must tank mix combinations for phytotoxicity on a sample of plants prior to use. *Due to the wide variation in climatic conditions, cultural practices, and other factors, the User assumes full responsibility for any crop damage or other liability resulting from the use of Neem Oil 70% in a tank mix combination.* Avoid tank mixes with Morestan, Captan, Sulfur, Bravo/Echo, chlorothalonil or other chemically similar products as unpredictable results or leaf burn may occur.

## COMMERCIAL USE

- Do not use Triact 70EC on food crops. (NOTE TO REVIEWER: Triact 70EC is not labeled for use on food crops)

## GREENHOUSE, LANDSCAPE, AND NURSERY USE INSTRUCTIONS

### FUNGICIDE USE

#### ORNAMENTAL DISEASE CONTROL

Neem Oil 70% is an effective fungicide for the prevention and control of various fungal diseases including black spot on roses, powdery mildew, downy mildew, anthracnose, rust, leaf spot, botrytis, needle rust, scab, flower, twig, and tip blight, and alternaria.

#### Landscape, Greenhouse and Nursery Ornamentals

Neem Oil 70% will provide broad spectrum control of many fungal diseases affecting ornamental flowering plants, trees, shrubs, and foliage when used at the rate of 1 gallon per 100-200 gallons of water, depending on the level of disease pressure. Use the lower rate (1:200) when spraying as a preventative in a greenhouse while the higher rate (1:100) is needed for outdoor applications. Determine the best rate for your particular situation.

#### Greenhouse

When Neem Oil 70% is used as a preventative, the lower rate (1:200) will provide adequate control for most greenhouse situations. If disease pressure is evident, use the higher rate (1:100). Make applications for disease prevention on a 7-14 day schedule depending on the anticipated severity of the disease pressure. To control existing disease, apply Neem Oil 70% on a 7-Day schedule until the disease pressure is eliminated. Use a 14-Day schedule to prevent disease pressure from returning. NOTE: Spray greenhouse roses only in a rotation program, which includes Neem Oil 70% once every 4 weeks.

#### Landscape Ornamentals

In outdoor landscape applications, apply Neem Oil 70% at rates of 1:50 - 1:200 rate (see tables for detailed use rates). This will provide the necessary control under the extreme outdoor conditions. When using Neem Oil 70% as a preventative, make application on a 14-day schedule. If disease is present, use a 7-day application schedule to control the disease and prevent further damage from occurring.

### MIXING INSTRUCTIONS

Add Neem Oil 70% to one-half (1/2) full tank under agitation containing water of 45°F or greater before filling to desired level. If water temperature is below 45°F, premix Neem Oil 70% at a 1:1 ratio with tepid water to ensure good emulsification. Then dilute to final volume. When combining with other products, such as wettable powder insecticides or fungicides, add these items first when the tank is approximately 1/3 full. Ensure that there is good agitation while mixing for complete emulsification. Maintain agitation during spray application. Do not use if this oil does not form a uniform, cloudy emulsion.

### APPLICATION INSTRUCTIONS

Apply until plant surface is uniformly wet with minimal runoff at 25-40 psi with hand sprayer or 100-200 psi with power sprayer as a fine spray to both leaf surfaces. Avoid excessive application.

### MANAGEMENT OF LANDSCAPE AND ORNAMENTAL DISEASES

SPRAY TARGET	CONCENTRATION	SPRAY INTERVAL	PRECAUTIONS
Potted Plants (Greenhouse)	1:100 - 1:200 (1.0% - 0.5%)	14 days	Trial first on open blooms
Flowering Bench Crops (Greenhouse)	1:100 - 1:200 (1.0% - 0.5%)	7 - 14 days	Trial first on open blooms - not suggested for cut roses
Outdoor Flowering Plants	1:100 - 1:200 (1.0% - 0.5%)	7 - 14 days	Do not spray impatiens flowers
Outdoor Woody Plants	1:50 - 1:100 (2.0% - 1.0%)	14 days	

### MANAGEMENT OF TURF DISEASES

SPRAY TARGET	CONCENTRATION	SPRAY INTERVAL	PRECAUTIONS
Snow Mold	1:100 - 1:50 (1.0% - 2.0%)	14 days	In fall before first snow
Dollar Spot	1:100 - 1:200 (1.0% - 0.5%)	7 - 14 days	At first sign of disease
Brown Patch	1:100 - 1:200 (1.0% - 0.5%)	7 - 14 days	At first sign of disease

### INSECTICIDE/MITICIDE USE

For use to control whiteflies, mealybugs, aphids, leafhoppers, mites and scales on ornamentals, trees, and shrubs in and around greenhouses, commercial nurseries and other commercial structures.

Use Neem Oil 70% at the rate of 1-2 gallons per 100 gallons of water. The low rate (1.0%) can be used when pest pressure is low. Use the high rate (2.0%) for high pest infestations or to control more troublesome pests, such as mites and scales. Determine the best rate for your particular situation.

Make sprays on a 7-14 day interval depending on the severity of the pest problem. Use the 7-day schedule until the pest population is reduced. Then use a 14-day interval for control.

### AGRICULTURAL USE DIRECTIONS

- Do not use Trilogy in nurseries, on turf, or landscape plantings. (NOTE TO REVIEWER: Trilogy is not labeled for these uses)
- Neem Oil 70% is a broad spectrum fungicide of certain diseases and controls mites in citrus, deciduous fruits and nuts, vegetable crops, cereal grains, and other miscellaneous crops.
- Do not apply this product through any type of irrigation system.
- Do not use Neem Oil 70% after bloom on table grapes or following bunch closure on wine grapes. Do not use Neem Oil 70% after pit hardening on stone fruit.
- Use care when applying near streams, ponds, lakes, or other bodies of water. Do not apply Neem Oil 70% when weather conditions favor drift or when the likelihood of runoff is high.
- Thorough plant coverage is essential to obtain optimal levels of control.
- For insects and mites: For best results, apply Neem Oil 70% thoroughly before adult insects, mites, or eggs

are present in large numbers.

- For Diseases: Apply Neem Oil 70% as a 1.0% solution in sufficient amounts of water to achieve complete coverage of foliage. (See the following detailed directions per crop groupings). When used as a foliar fungicide, begin applications when conditions are favorable for disease but before infection. Apply Neem Oil 70% every 7-14 days until threat of disease is over. Use Neem Oil 70% in rotation with other fungicides to increase the spectrum of control.
- For Mites: For best results, apply Neem Oil 70% in sufficient amounts of water to achieve complete coverage. Neem Oil 70% is most effective when applied before mites or eggs are present in large numbers. (See the following detailed directions per crop groupings). Apply at a rate of 1.0-2.0% Neem Oil 70%. Reapply Neem Oil 70% every 7-21 days until pressure is over.
- For Insects: For best results, apply Neem Oil 70% at 1.0-2.0% in sufficient amounts of water to achieve complete coverage. Neem Oil 70% is most effective when applied before insects or eggs are present in large numbers. Repeat application based on pest pressure and field scouting for best results. Use the dilution tables to calculate dilution rates.
- Consult local agricultural extension service or experiment station for detailed information on timing of applications for the most effective control for your area.
- Apply Neem Oil 70% by conventional, low volume, and aerial application equipment.

#### APPLICATION INSTRUCTIONS

**Ground Application:** Apply Neem Oil 70% by ground application in a minimum of 25 gallons of water / acre.

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

**Aerial Application:** For those crops where aerial applications are indicated, apply a minimum of 5 gallons of water / acre unless otherwise specified. Avoid application under conditions when uniform coverage cannot be obtained or when excessive drift may occur. Do not apply directly to humans, animals or aquatic animals.

#### MIXING INSTRUCTIONS

Add Neem Oil 70% to one-half (1/2) full tank under agitation containing water of 45°F or greater before filling to desired level. If water temperature is below 45°F, premix Neem Oil 70% at a 1:1 ratio with tepid water to ensure good emulsification. Then dilute to final volume. When combining with other products, such as wettable powder insecticides or fungicides, add these items first when the tank is approximately 1/3 full. Ensure that there is good agitation while mixing for complete emulsification. Maintain agitation during spray application. Do not use if this oil does not form a uniform, cloudy emulsion.

#### DILUTION TABLE FOR LOW VOLUME (INCLUDING AERIAL) APPLICATIONS (5-30 gallons per acre)

Gallons of Water	NEEM OIL 70%	DILUTION
5	1 Quart*	5%
10	1 Quart*	2.5%
15	1 Quart*	1.67%
20	1 Quart*	1.25%
25	1 Quart*	1.0%
30	1 Quart*	0.83%

\*For citrus, stone fruit, tropical fruit, pome fruit, and nuts, refer to specific application instructions.



**DILUTION TABLE FOR HIGH VOLUME APPLICATION  
(25-250 gallons per acre)**

Gallons Water	Gallons of Neem Oil 70% for 0.5% Solution	Gallons of Neem Oil 70% for 1.0% Solution	Gallons of Neem Oil 70% for 1.5% Solution	Gallons of Neem Oil 70% for 2.0% Solution
25	Use 1.0% solution	0.25 (32 fluid oz.)	0.375 (48 fluid oz.)	0.5 (64 fluid oz.)
50	0.25 (32 fluid oz.)	0.5 (64 fluid oz.)	0.75 (96 fluid oz.)	1.0
75	0.375 (48 fluid oz.)	0.75 (96 fluid oz.)	1.125	1.5
100	0.5	1.0	1.5	2.0
125	0.625 (80 fluid oz.)	1.25	1.875	2.5
150	0.75	1.5	2.25	3.0
175	0.875 (112 fluid oz.)	1.75	2.625	3.5
200	1.0	2.0	3.0	4.0
225	1.125	2.25	3.375	4.5
250	1.25	2.5	3.75	5.0

**CITRUS, POME (DECIDUOUS), STONE, TROPICAL FRUITS AND NUTS**

**Citrus**

Use Neem Oil 70% on citrus to control diseases to include Anthracnose, Post-Bloom Fruit Drop, and Scab. Apply as a foliar application at the rate of 1.0% in 25-200 gallons of water for high volume applications or a minimum of 0.5 gallons Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume applications. Do not apply more than 2.5 gallons of Neem Oil 70% per acre, per application. Reapply Neem Oil 70% every 7-14 days until threat of disease is over.

For control of Alternaria and Greasy Spot, apply Neem Oil 70% at a 1.0% solution in 25-125 gallons of water per acre in combination with Copper @ 2.0 lbs a.i. per acre (as found in EPA registered products such as Kocide® and Champ®) as a preventative disease spray tank mixture.

Use Neem Oil 70% on citrus to control mites at a rate of 1.0-2.0% in 25-200 gallons of water for high volume application or 0.5 gallon Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume application. As a dormant oil spray, use Neem Oil 70% as a 2% solution or 1 quart Neem Oil 70% minimum per acre. Do not apply more than 5 gallons of Neem Oil 70% per acre, per application.

**Stone and Tropical**

**FUNGICIDE USE:** Apply Neem Oil 70% at a rate of 1.0% in 25-200 gallons of water for high volume applications or 0.5 gallons Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume application. Reapply Neem Oil 70% every 7-14 days until threat of disease is over.

**MITICIDE USE:** Use Neem Oil 70% at first sign of pests or pest damage at the appropriate rate listed below as a foliar spray in sufficient water for thorough coverage. Repeat applications as needed for adequate control every 7-21 days. Apply a 1.0-2.0% solution of Neem Oil 70% for high volume application or a minimum of 1 quart Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume application. Do not apply more than 5 gallons of Neem Oil 70% per acre, per application.

Do not use Neem Oil 70% after pit hardening on stone fruit.

**Pome (Deciduous Fruits) and Nuts**

**FUNGICIDE USE:** Apply Neem Oil 70% at a rate of 1.0% in 25-100 gallons of water per acre or 0.5 quarts Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume application. Apply no more than 2.5 gallons Neem Oil 70% per acre in solution per application. Repeat applications every 7-14 days.

**MITICIDE USE:** Use Neem Oil 70% at a rate of 1.0-2.0% in 25-100 gallons of water per acre or 0.5 quarts Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume application. Apply no more than 2 gallons of Neem Oil 70% per acre per solution. Apply at first sign of pests or pest damage. Repeat application as needed for adequate control every 7-21 days. Do not apply more than 5 gallons Neem Oil 70% per acre, per application.

**Walnuts:** Avoid spraying after husk split.

**CITRUS, POME, STONE, AND TROPICAL FRUITS****Crops** (including but not limited to)

Apples	Guavas	Oriental pears
Apricots	Jujubes	Pineapples
Avocados	Kiwifruit	Plantains
Bananas	Kumquats	Plums
Calamondin	Lemons	Chickasaw Plums
Cherries	Limes	Damson Plums
Barbados cherries	Loquats	Japanese Plums
Sour cherries	Lychee	Pomegranates
Sweet cherries	Mangoes	Prunes
Cherimoya	Mandarins	Pummelos
Citrus citron	Satsuma mandarins	Quinces
Citrus hybrids	Nectarines	Tangelos
Coconuts	Olives	Tangerines
Crabapples	Oranges	
Dates	Papayas	
Feijoa	Passion fruit	
Figs	Peaches	
Grapefruits	Pears	

**PESTS**

Aphids	Fruit flies	Calico scales
Apple grain aphids	Leafminers	Frosted scales
Black cherry aphids	Citrus leafminers	Lecanium scales
Green apple aphids	Mealybugs	San Jose scales
Leafcurl aphids	Mites	Whiteflies
Mealy plum aphids	Rust mites	Citrus whiteflies
Rosy apple aphids	Spider mites	Silverleaf whiteflies
Woolly aphids	Psyllids	Sweetpotato whiteflies
Citrus blackflies	Scales	

**DISEASES**

Anthracnose	Downy mildew	Shot hole
Alternaria	Powdery mildew	
Post-bloom fruit drop	Scabs	
Mildews	Greasy spot	

## NUTS

### Crops (including but not limited to)

Almonds  
Beech nuts  
Brazil nuts  
Butternuts  
Cashews

Chestnuts  
Chinquapins  
Filberts  
Hickory nuts  
Japanese horse chestnuts

Macadamia nuts  
Pecans  
Pistachios  
Walnuts

## PESTS

Aphids  
Woolly aphids  
Leafrollers  
Fruit tree leafrollers  
Mites

Rust mites  
Spider mites  
Scales  
Calico scales  
Frosted scales

Lecanium scales  
San Jose scales  
Weevils  
Chestnut weevils

## DISEASES

Leaf spot  
Shothole

## CUCURBITS

Refer to specific application instructions found directly below the heading **Agricultural Use Directions**.

### Crops (including but not limited to)

Balsam pears (bitter melons)  
Cantaloupes  
Casaba  
Chinese waxgourds  
Citron melons  
Crenshaw  
Cucumbers

Gherkins  
Gourds  
Honey balls  
Melons (incl. hybrids)  
Honeydew melons  
Muskmelons  
Persian melons

Pumpkins  
Squashes  
Watermelons (incl. hybrids)  
Zucchini

## PESTS

Leafcurl aphids  
Woolly aphids  
Leafminers  
Mites  
Spider Mites  
Calico scales

Aphids  
Frosted scales  
Lecanium scales  
San Jose scales  
Scales  
Squash bugs  
Whiteflies

Greenhouse whiteflies  
Silverleaf whiteflies  
Sweetpotato whiteflies

## DISEASES

Mildews  
Downy mildew  
Powdery mildew

## BULB, COLE AND LEAFY VEGETABLES

Refer to specific application instructions found directly below the heading **Agricultural Use Directions**.

### Crops (including but not limited to)

Arugula  
Broccoli  
Broccoli raab  
Chinese broccoli (Gai lon)  
Brussels sprouts  
Cabbage (head & leaf)

Chinese cabbage (Bok choy, Napa)  
Chinese mustard cabbage (Gai choy)  
Cauliflower  
Celery  
Celtuce  
Chervil

Chicory  
Red chicory  
Cilantro  
Collards  
Corn salad  
Cress

Watercress  
Daikon  
Endive  
Fennel  
Garlic  
Greens  
Collard greens  
Mustard greens  
Rape greens  
Kale

Kohlrabi  
Leek  
Lettuce (head & leaf)  
Low-bok  
Onions  
Orach  
Parsley  
Purslane  
Raddichio  
Rappini

Rhubarb  
Shallots  
Spinach  
Chinese Spinach  
(Amaranth, Tampala)  
Swiss chard  
Turnip tops

## PESTS

Aphids  
Woolly aphids  
Leafminers  
Mites

Rust Mites  
Spider Mites  
Whiteflies  
Greenhouse whiteflies

Silverleaf whiteflies  
Sweetpotato whiteflies

## DISEASES

Alternaria  
Botrytis  
Mildews

Downy mildew  
Powdery mildew  
Rusts

White rust

## LEGUME AND FRUITING VEGETABLES

Refer to specific application instructions found directly below the heading **Agricultural Use Directions**.

### Crops (including but not limited to)

Beans  
Broad beans  
Calabaza  
Chickpeas  
Eggplants  
Ground cherries

Guar  
Lentils  
Peas  
Peanuts  
Pepinos  
Peppers

Pigeon peas  
Snow peas  
Soybeans  
Tomatillos  
Tomatoes

## PESTS

Aphids  
Woolly aphids  
Beetles  
Bean leaf beetles  
Colorado Potato Beetles  
Mexican bean beetles  
Leafminers

Mites  
Rust Mites  
Spider Mites  
Psyllids  
Whiteflies  
Greenhouse whiteflies  
Silverleaf whiteflies

Sweetpotato whiteflies  
Scales  
Calico scales  
Frosted scales  
Lecanium scales  
San Jose scales

## DISEASES

Blight  
Leaf blight  
Mildews

Powdery mildew  
Molds  
Gray mold

Leaf spots  
Rusts

## ROOT AND TUBER VEGETABLES

Refer to specific application instructions found directly below the heading **Agricultural Use Directions**.

### Crops (including but not limited to)

Artichokes  
Beets  
Cardone  
Carrots  
Cassava  
Ginger  
Ginseng

Horseradish  
Parsnips  
Potatoes  
Sweet potatoes  
Radishes  
Rutabaga  
Taro (Dasheen)

Turmeric  
Turnips  
Yams  
Yam beans

## PESTS

Aphids  
Beetles

Colorado Potato Beetles  
Mites

Rust Mites  
Spider Mites

Psyllids  
Scales  
Calico scales  
Frosted scales

Lecanium scales  
San Jose scales  
Whiteflies  
Greenhouse whiteflies

Silverleaf whiteflies  
Sweetpotato whiteflies

## DISEASES

Blights  
Mildews

Powdery mildew  
Rusts

## SMALL FRUITS AND BERRIES

Refer to specific application instructions found directly below the heading **Agricultural Use Directions**.

**Crops** (including but not limited to)

Blueberries  
Boysenberries  
Cranberries  
Currants  
Dewberries

Blackberries  
Elderberries  
Gooseberries  
Grapes  
Huckleberries  
Loganberries

Olalie berries  
Raspberries (black & red)  
Strawberries  
Youngberries

## PESTS

Aphids  
Woolly aphids  
Leafrollers  
Mites

Rust Mites  
Spider Mites  
Scales  
Calico scales

Frosted scales  
Lecanium scales  
San Jose scales

## DISEASES

Mildews  
Downy mildew

Powdery mildew  
Rots

Black rot

## HERBS AND SPICES

Refer to specific application instructions found directly below the heading **Agricultural Use Directions**.

**Crops** (including but not limited to)

Anise  
Balm  
Basil  
Borage  
Camomile  
Caraway  
Catnip  
Celery  
Chives  
Coriander

Cumin  
Curry leaf  
Dandelion  
Dill  
Fennel  
Marigold  
Marjoram  
Mint  
Nasturtium  
Pennyroyal  
Peppermint

Rosemary  
Rue  
Sage  
Savory  
Spearment  
Sweet bay  
Tarragon  
Thyme  
Wintergreen, . . .  
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## PESTS

Aphids  
Woolly aphids  
Mites  
Rust Mites

Spider Mites  
Scales  
Calico scales  
Frosted scales

Lecanium scales  
San Jose scales  
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## DISEASES

Mildews

Powdery mildew

Leaf spot . . . .  
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## VEGETABLE, CEREAL GRAINS AND OTHER MISCELLANEOUS CROPS

### FUNGICIDE USE

Apply Neem Oil 70% at a rate of 0.5%-1.0% in 25-100 gallons of water per acre or 2 pints Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume applications. Repeat applications every 7-14 days. Apply no more than 2 gallons Neem Oil 70% per acre, per application. Larger plants will require higher amounts of water to obtain good coverage.

### MITICIDE USE

Apply Neem Oil 70% at a rate of 0.5%-2.0% in 25-100 gallons of water per acre or 2 pints Neem Oil 70% in a minimum of 5 gallons of water per acre for low volume application. Apply no more than 2 gallons Neem Oil 70% per acre in solution per application. Apply in a solution of sufficient volume to achieve complete coverage of foliage. Reapply Neem Oil 70% every 7-21 days as needed for adequate control. Larger plants will require higher amounts of water to obtain good coverage.

### Crops (including but not limited to)

Acerola	Sweet corn	Safflower
Alfalfa	Cotton	Seagrapes
Araacaga (Apio)	Hops	Sesame
Asparagus	Jicama	Sorghum
Barley	Jojoba	Soursup (Quanabanas)
Breadfruit	Kinep	Star apples
Buckwheat	Mushrooms	Sugarcane
Canola	Nispero	Sunflowers
Coffee	Oats	Tobacco
Coriander	Okra	Wheat
Corn	Quenepa	
Popcorn	Rice	

### PESTS

Beetles	Thrips	Silverleaf whiteflies
Asparagus Beetles	Whiteflies	Sweetpotato whiteflies
Lygus bugs	Greenhouse whiteflies	

### DISEASES

Rusts

### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Keep in original container. Store in a dry place, away from direct sunlight, feed, or foodstuffs. Keep container tightly sealed when not in use. Do not store below 40°F (4°C).

#### Agricultural/Commercial Use

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

#### Agricultural/Commercial Use

**Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### Homeowner

**If empty:** Do not reuse this container. Place in trash or offer for recycling if available.

**If partly filled:** Call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.

### WARRANTY

Certis USA, L.L.C. warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the insect problem, condition of the crop, incompatibility with other chemicals

not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.

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Champ® is a registered trademark of Agtrol Chemical Products.

## HOMEOWNER USE DIRECTIONS

### GENERAL INFORMATION

- Do not add adjuvants (spreaders, stickers, extenders, etc.) to Neem Oil 70%.
- Stops powdery mildew in 24 hours

**FUNGICIDE USE:** For use on FRUITS, NUTS, VEGETABLES, HERBS, SPICES, ROSES, HOUSEPLANTS, FLOWERS, TREES, and SHRUBS

### APPLICATION INSTRUCTIONS:

Neem Oil 70% is an effective fungicide for the prevention and control of various fungal diseases including powdery mildew, black spot, downy mildew, anthracnose, rust, leaf spot, botrytis, needle rust, scab and flower, twig, tip blight, and alternaria. As a preventative, apply Neem Oil 70% on a 7 to 14 day schedule until the potential for disease development is no longer present. To control disease already present, apply Neem Oil 70% on a 7 day schedule until disease pressure is eliminated. Then continue spraying on a 14 day schedule to prevent the disease from reoccurring. To prevent rust leaf spot diseases, anthracnose and scab, begin applications at the first sign of spring budding. To prevent powdery mildew, apply in mid-summer or when disease is first detected. Continue applications until disease pressure no longer exists.

### MIXING INSTRUCTIONS:

Mix Neem Oil 70% at the rate of 2 tablespoons (1 fluid ounce) per gallon of water. Thoroughly mix solution and spray all plant surfaces (including undersides of leaves) until completely wet. Frequently mix solution as you spray.

**INSECTICIDE/MITICIDE USE:** For use on FRUITS, NUTS, VEGETABLES, HERBS, SPICES, ROSES, HOUSEPLANTS, FLOWERS, TREES, and SHRUBS

### APPLICATION INSTRUCTIONS:

Apply Neem Oil 70% at first sign of insects/mites. For control of aphids, spider mites, scale, whiteflies, beetles, leafrollers, and other insect pests. Neem Oil 70% is most effective when applied every 7 to 14 days. For heavy insect populations, spray on a 7 day schedule.

### MIXING INSTRUCTIONS:

Mix Neem Oil 70% at the rate of 2 tablespoons (1 fluid ounce) per gallon of water. Thoroughly mix solution and spray all plant surfaces (including underside of leaves) until completely wet. Frequently mix solution as you spray.

**Net Contents: 1 Quart (0.946 liters)**

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