

66222-66

11/27/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

NOV 27 2012

Kristen B. Knox  
Makhteshim Agan of North America, Inc.  
3120 Highwoods Blvd, Suite 100  
Raleigh, NC 27604

SUBJECT: Captan 4L  
EPA Reg. No. 66222-66  
Notification dated October 2, 2012  
Decision # 470700

Dear Ms. Knox:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice ( PRN) 98-10 . The Registration Division (RD) has conducted a review of this request for applicability under PRN 98-10 and finds that the label change(s) and the alternate brand name (Captan 4L Gold) requested falls within the scope of PRN 98-10.

The label submitted with this application has been stamped "Notification" and will be placed in our files. If you have any questions, please call Rose Kearns at 703-305-5611 or you may call me at 703-308-9443.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rose Kearns".

Tony Kish  
Product Manger (22)  
Fungicide Branch  
Registration Division (7504P)



United States  
**Environmental Protection Agency**  
 Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number 66222-66	2. EPA Product Manager Tony Kish	3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted
4. Company/Product (Name) Captan 4L	PM# 22	
5. Name and Address of Applicant (Include ZIP Code) Makhteshim Agan of North America, Inc. 3120 Highwoods Blvd, Suite 100 Raleigh, NC 27604 <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 _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

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

Notification to add an ABN, one optional marketing claim, and a 1-800 contact number; to update company address, and to delete a 24-hour contact number in Storage & Disposal. 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.

**Section - III**

**1. Material This Product Will Be Packaged In:**

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	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt.    No. per container	If "Yes" Package wgt    No. per container

3. Location of Net Contents Information  
 Label     Container

4. Size(s) Retail Container

5. Location of Label Directions

6. Manner in Which Label is Affixed to Product  
 Lithograph Paper glued  
 Stenciled     Other \_\_\_\_\_

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

Name Kristen B. Knox	Title Product Registration Manager	Telephone No. (Include Area Code) 919-256-9337
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**Certification**  
 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 	3. Title Product Registration Manager
4. Typed Name Kristen B. Knox	5. Date October 1, 2012

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October 2, 2012

Document Processing Desk (NOTIF)  
U.S. EPA Office of Pesticide Programs (7504C)  
One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

RE: Captan 80WDG, EPA Reg. No 66222-58  
Captan 4L, EPA Reg. No. 66222-66  
Notification to add an alternate brand name and marketing claims

To Whom It May Concern:

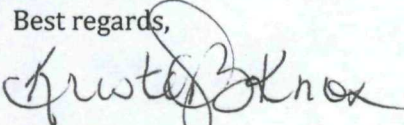
Makhteshim Agan of North America, Inc. is notifying the Agency of our intention to  
1. Add an alternate brand name for each of the products listed above, 2. Add one  
marketing claim to each product label, 3. Add a toll-free contact number for product  
information, 4. Update our company address, and 5. Update language in the Storage  
and Disposal section,

In support of this submission, the following documents are attached:

- Application for Pesticide Registration (EPA form 8570-1)
- One annotated copy of the master label with all edits in red
- One clean copy of the master label

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.

If you need any further information to process this submission, please contact me at phone: 919-256-933 or e-mail: [kknox@manainc.com](mailto:kknox@manainc.com).

Best regards,  


Kristen B. Knox  
Product Registration Manager

www.manainc.com

P: (919) 256-9300  
F: (919) 256-9308

3120 Highwoods Blvd.  
Suite 100  
Raleigh, NC 27604



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NOTIFICATION

NOV 27 2012

# CAPTAN 4L

(Alternate Brand Name: Captan GOLD 4L)

Optional Marketing Claims:

- Fungicide
- Fungicide for Plant Disease Control

**ACTIVE INGREDIENTS:**

<b>Captan:</b> N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide .....	<b>% BY WT.</b>
Related Derivatives .....	47.50%
	0.97%

<b>INERT INGREDIENTS:</b> .....	51.53%
	<b>TOTAL 100.0%</b>

\*contains 4 lbs of active ingredient per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION

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.)

Manufactured for:  
 Makhteshim Agan of North America  
 3120 Highwoods Blvd, Suite 100  
 Raleigh, NC 27604

EPA Reg. No. 66222-66

EPA Est. No. XXXXXXXXXX

**NET CONTENTS: \_\_\_ GALS.**

FIRST AID	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p><b>Have the product container or label with you when calling a poison control center or doctor or going for treatment.</b> You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.</p>	
<p><b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage.</p>	

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

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with skin, eyes or clothing. Avoid inhalation of spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### 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 C on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, and other handlers (including handlers participating in seeding and transplanting as part of root-dip or greenhouse-soil treatments and persons handling/cutting/sorting treated potato seed pieces) must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Protective eyewear
- Chemical-resistant gloves (except applicators driving motorized equipment)
- Chemical-resistant apron when participating in dip treatments
- In addition, a NIOSH-approved respirator with any N, R, P, or HE filter must be worn by all handlers *except* (1) applicators driving motorized equipment, and (2) mixers/loaders/applicators participating in backpack, low-pressure hand-wand/handgun, and dip treatments, and (3) mixers/loaders participating in aerial applications. Mixers/loaders participating in aerial application operations must wear an air-purifying NIOSH-approved respirator with any N100, R100, or P100 filter.

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

**ENGINEERING CONTROLS STATEMENT:** 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

This pesticide is toxic to fish. 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 and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters 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 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: 12 hours for planter box-type or hopper-box seed treatment uses. Exception: Once the seeds are planted in soil or other planting media, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no contact with the soil/media subsurface.

**AGRICULTURAL USES REQUIREMENTS, CONTINUED.**

24 hours for strawberries, almonds, apples, apricots, cherries, nectarines, plums/fresh prunes, and peaches.  
48 hours for soil treatments and root dips: For soil and greenhouse bench treatments and root dips, once the treatment

and any seeding or transplanting tasks done as part of the treatment are complete, the 48-hour REI begins. Exception: Once the seeds or transplants are planted in the soil, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no contact with the soil subsurface.

48 hours for sod farms.

72 hours for blueberries, grapes, raspberries, blackberries, and dewberries.

96 hours for ornamentals. Exception: For the last 48 hours of the REI, workers may enter the treated area to perform hand labor or other tasks involving contact with anything that has been treated, such as plants, soil, or water, without time limit, if they wear the early-entry PPE listed below.

**EARLY ENTRY PPE:**

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
- Protective eyewear
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Double Notification: Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

**ADDITIONAL POST-APPLICATION REQUIREMENTS:**

Eye-Protection: To mitigate eye irritation concerns from post-application exposures, for at least seven days following the application of captan:

1. At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site for workers entering the area with treated with captan, and
2. Workers must be informed orally, in a manner they can understand:
  - that residues in the treated area may be highly irritating to their eyes
  - that they should take precautions, such as refraining from rubbing their eyes, to keep residues out of their eyes
  - that if they do get residues in their eyes, they should immediately flush their eyes with the eyeflush container that is located at the decontamination site, and,
  - how to operate the eyeflush container.

Read all precautions and directions for use before using. Use only for claims listed and only as specified on this label.

In order that pesticide residues on food and forage crops will not exceed federal tolerances, use only at recommended rates and intervals and do not apply closer to harvest than specified. Do not apply or allow to drift to adjoining food, fiber, or pasture crops. Drift of CAPTAN 4L onto sensitive crops (e.g., D'Anjou Pears) can cause severe phytotoxicity and crop loss.

Consult State Agricultural Experiment Stations or State Agricultural Extension Service for additional information, as the time of applications needed will vary with the local conditions.

**SPRAY DRIFT LABELING**

Do not allow this product to drift.

**Foliar Spray Drift Management**

Avoiding spray drift from foliar applications is the responsibility of the applicator. Similar to aerial spray drift, the interaction of many equipment- and-weather-related factors determine the potential for spray drift from foliar applications. To protect water resources, the applicator and the grower are responsible for considering all these factors when making decisions.

### **Aerial Spray Drift Management**

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.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

### **Aerial Drift Reduction Advisory**

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 higher 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 Length**

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

#### **Application Height**

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is recommended 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 cross-wind, 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**

Applications should not occur 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).

Consult State Agricultural Experiment stations or State Agricultural Extension Service for additional information as the time of applications needed will vary with the local conditions.

**COMPATIBILITY AND PLANT SAFETY**

CAPTAN 4L can be combined safely and effectively at recommended dosage rates with most commonly used fungicides and insecticides, with the exception of oil and strongly alkaline materials. Alkaline materials such as spray lime, lime-sulfur, and Bordeaux mixture will reduce the fungicidal activity of CAPTAN 4L. Do not apply CAPTAN 4L in combination with or immediately before or closely following oil sprays. The time factor governing the safe interval between CAPTAN 4L and oil sprays varies due to general climatic conditions, therefore, consult local agricultural spray programs and authorities to determine the proper timing. The use of spreaders which cause excessive wetting is not advised. Combinations with solvent formulations of organic phosphates should not be used. Combinations of CAPTAN 4L and sulfur should not be used on crops sensitive to sulfur. Used at high rates or in drenching sprays, CAPTAN 4L may cause a necrotic spotting of tender, immature leaves of certain varieties of apples, peaches, plums, and cherries. This type of injury is most likely to occur in the early cover sprays during long periods of warm, cloudy, humid weather. To avoid the hazard of leaf spotting under such conditions, use CAPTAN 4L and other spray materials at lowest recommended rates and avoid drenching trees.

Applications can be made by aircraft or ground power equipment (including concentrate and semi-concentrate equipment). Pour recommended amount of this material into nearly filled spray tank. Add balance of water. Maintain agitation during filling and spraying operations. Do not allow mixture to stand. Do not combine with emulsifiable liquids or wettable powders unless previous experience has proven them to be physically compatible and safe to plants. (Read compatibility and plant safety information).

For aerial or concentrate spray applications, apply the same amount of CAPTAN 4L per acre as would normally be applied for dilute spray applications. Apply aerial or concentrate sprays in sufficient water for coverage.

**CHEMIGATION STATEMENT**

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

**USE PRECAUTIONS**

Except as specified, begin applications before or at first sign of disease and repeat as needed to maintain control but observe use limitations. Unless otherwise specified, application can be made on the day of harvest. Maximum application is for a crop cycle. Crop cycle is defined as prebloom through postharvest. Apply the high rate and/or spray at shorter intervals when climatic conditions favor disease(s). Apply the low rate and/or spray at larger intervals when climatic conditions least favor disease(s). If you are unaware of the climatic conditions favorable for disease(s) claimed for the specific use sites, you must consult with your State Agricultural Extension Service to learn of these conditions.

**IMPORTANT:** Read label carefully. Although most of the directions on this label may be followed nationwide, a few are limited to either the eastern or western U.S. Follow those directions for your growing area where



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specified.

### GENERAL INSTRUCTIONS

The following tables show suggested minimum spray volumes per acre; however, thorough coverage is essential for best results. The stage of growth and size are major factors in determining spray volume required to obtain thorough coverage. If there is a question regarding spray volumes needed, consult local extension service recommendations for spray volumes applicable to your particular crop.

#### SUGGESTED MINIMUM SPRAY VOLUMES/ACRE FOR EFFECTIVE COVERAGE

DILUTE 100 gallons	CONCENTRATE 50 gallons	AERIAL 10 gallons
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Captan 4L rates are shown on a dilute basis. Unless otherwise specified by crop, concentrate and/or aerial sprays may be applied at a rate not to exceed that recommended per acre for dilute sprays so long as maximum rate per acre per application is not exceeded.

### FRUIT AND NUT CROPS

**ALMONDS: Brown rot twig and blossom blight, shothole, scab, leaf blight, anthracnose** (for control of anthracnose, use in a disease and resistance management program of rotational sprays with other approved materials); Apply 4 to 9 pints CAPTAN 4L per acre in 20 to 300 gallons of water using ground equipment or in 5 to 20 gallons of water by air. Use 6 to 9 pints per acre when Captan is used alone. To reduce the potential for disease resistance development to other fungicides having a similar spectrum, CAPTAN 4L may be used in a tank mix at a rate of 4 to 6 pints per acre. Apply at popcorn, bloom, petal fall, post petal fall, and full cover sprays. Do not apply within 30 days of harvest. Almond hulls may be fed to livestock. Do not apply more than 40 pints per acre per crop cycle. The REI is 24 hours.

**APPLES: (Eastern U.S.): Primary scab, black rot (frog-eye), botrytis blossom-end-rot;** Apply 8 pints CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment or in 5 to 20 gallons of water by air. Apply at 5 to 7 day intervals as needed to maintain control in prebloom, bloom, petal fall, and first cover sprays. **Secondary scab, Brooks fruit spot, sooty blotch, fly speck, black rot, black pox, botryosphaeria rot, bitter rot;** Apply 4 to 8 pints CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment or in 5 to 20 gallons of water by air. Apply at 10 to 14 day intervals in second and later cover sprays. Do not apply more than 64 pints of CAPTAN 4L per acre per crop cycle. May be applied up to day of harvest. **Powdery mildew;** If powdery mildew is a problem add 6 to 12 pounds sulfur per acre to all postbloom sprays until foliage matures. **NOTE:** Do not use CAPTAN 4L in combination with or closely following or in alternation with wettable sulfur products on sulfur sensitive varieties of apples such as Red Delicious, Staymen, Baldwin, King etc. as severe injury and defoliation may occur. The REI is 24 hours.

**APPLES: (Western U.S.): Primary scab;** Apply 4 to 8 pints of CAPTAN 4L per acre in 20 to 400 gallons of water per acre using ground equipment or in 5 to 20 gallons of water by air. To reduce the potential for disease resistance development to other fungicides having a similar spectrum, the lower rate may be used in tank mixtures. **(Pacific Northwest): Bull's eye rot, Botrytis rot;** Apply 6 pints CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment or in 5 to 20 gallons of water by air. Make 1 or 2 applications with late cover sprays and 1 final spray prior to harvest. Do not apply more than 64 pints of CAPTAN 4L per acre per crop cycle. May be applied up to day of harvest. **Secondary scab;** In mid-summer cover sprays, the dosage may be reduced to 4 pints per acre. The REI is 24 hours.

**APRICOTS: Brown rot (twig blight), jacket rot;** Apply 3 to 5 pints CAPTAN 4L per acre in 20 to 250 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Apply in red bud, bloom, and 75% petal fall sprays. Do not make applications after 75% petal fall unless supplemental labeling supplied by Makhteshim-Agan is followed. To reduce the potential for disease resistance development to other fungicides having a similar spectrum, use the lower rate in tank mixtures. Do not apply more than 25 pints per acre per crop cycle. The REI is 24 hours.

**BLUEBERRIES: (Eastern U.S.): Botrytis gray mold or berry rot, mummy berry;** Apply 5 pints CAPTAN 4L per acre in sufficient water for thorough coverage or a minimum of 5 gallons of water by air. Start spray program when buds swell or when buds have loose scales. Repeat at 7-day intervals through blossom period. Repeat at

7- to 10-day intervals from late bloom. Do not apply more than 70 pints per acre per crop cycle. May be applied up to day of harvest. The REI is 72 hours.

**BLUEBERRIES (Western U.S.): Botrytis gray mold or berry rot, mummy berry;** Apply 2 to 5 pints CAPTAN 4L per acre in 20 to 200 gallons of water by ground or in 5 to 20 gallons of water by air. Begin at mid-bloom, repeat at 7- to 10-day intervals until maturity. Do not apply more than 70 pints per acre per crop cycle. May be applied up to day of harvest. The REI is 72 hours.

**CANEBERRIES (BLACKBERRIES, RASPBERRIES, AND DEWBERRIES): Anthracnose, Botrytis, Spur blight;** Apply 4 pints CAPTAN 4L per acre when blossoms are in bud (young canes are 8-10 inches long). Make a second application two weeks later. Apply a fall spray after old canes are removed. **Fruit rot;** Apply 4 pints of CAPTAN 4L per acre at early bloom (5-10% bloom) and again at full bloom. Additional applications can be made at 10-14 day intervals as needed. Apply CAPTAN 4L as indicated above in 45-100 gallons of water per acre. Use the higher volume as foliage increases. Do not apply more than 20 pints of CAPTAN 4L per acre per season. Do not apply within 3 days of harvest. The REI is 72 hours.

**CHERRIES: (Eastern U.S.): Brown rot, leaf spot, Botrytis rot;** Apply 4 pints CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Apply in pre-bloom, bloom, petal fall, shuck, cover and preharvest sprays. Applications at 3- to 4-day intervals may be necessary during bloom to control blossom blight. Repeat applications at 7- to 20-day intervals as needed to maintain control up to start of harvest. If powdery mildew is a problem, add 6 lbs. sulfur per acre to the petal fall, shuck, and early cover sprays. If sulfur is added, CAPTAN 4L may be reduced to 2 pints per acre in these sprays. Do not apply more than 28 pints per acre per crop cycle. May be applied up to day of harvest. The REI is 24 hours.

**Post harvest sprays: leaf spot;** Apply 4 pints CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment. Apply immediately after harvest and repeat application in 10 to 14 days.

**CHERRIES: (Western U.S.): Brown rot blossom blight, brown rot (fruit), leaf spot;** Apply 3 to 4 pints CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Apply in pre-bloom, bloom, petal fall, shuck, cover, and preharvest sprays. Do not apply more than 28 pints per acre per crop cycle. May be applied up to day of harvest. The REI is 24 hours.

**GRAPES: (U.S. except CA): Phomopsis cane and leaf spot, downy mildew, suppression of black rot;** Apply 2 to 4 pints CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment or in 7 to 20 gallons water by air when shoots are 1/2 to 1 1/2 inches long, when shoots are 3 to 5 inches long, and when shoots are 9 to 12 inches long. Repeat just before bloom, immediately after bloom, and continue at 10- to 14-day intervals as long as disease conditions persist. Use the lower rate when spraying less susceptible grape varieties or when conditions are less favorable for disease development. Use the higher rate on susceptible grape varieties and during periods of weather highly favorable for disease development. Do not apply more than 24 pints of CAPTAN 4L per acre per crop cycle. May be applied up to day of harvest. The REI is 72 hours.

**GRAPES: (California): Bunch rot (Botrytis);** Apply 4 pints CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment or in 7 to 20 gallons of water by air. Make 2 applications before bloom and 1 immediately after bloom. Repeat periodically, making 3 cover applications before the bunches close. **Phomopsis cane and leaf spot** (current season infection); Apply 3 to 4 pints CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment or apply 4 pints CAPTAN 4L per acre in 7 to 20 gallons of water by air. Apply first spray when green tissue begins to show but before shoots are 1 inch long and repeat application when shoots are 6 to 8 inches long. Do not apply more than 24 pints of CAPTAN 4L per acre per crop cycle. May be applied up to day of harvest. The REI is 72 hours.

**NECTARINES: Brown rot, scab;** Apply 4 to 8 pints CAPTAN 4L per acre in 20 to 250 gallons of water using ground equipment or in 10 to 20 gallons of water by air. To reduce the potential for disease resistance development to other fungicides having a similar spectrum, use the lower rates of Captan 4L in tank mixes. Apply in full pink, bloom, petal fall, shuck, cover, and preharvest sprays. Applications at 3- to 4-day intervals may be necessary during bloom to control blossom blight. Repeat application at 7- to 14-day intervals as needed to maintain control. Continue applications throughout harvest if conditions favor brown rot. If powdery mildew is a problem, add 7 1/2 pounds sulfur per acre to the petal fall, shuck, and early cover spray. If sulfur is added, CAPTAN 4L may be reduced to 2 1/2 pints per acre in these sprays. **Coryneum blight (peach blight, shothole);** Apply 4 to 8 pints CAPTAN 4L per acre in 20 to 250 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Apply in pink bud, full bloom, petal fall, and cover sprays as necessary, and as a

postharvest spray (but before leaves drop). Do not apply more than 48 pints per crop cycle (including postharvest sprays). Preharvest sprays may be applied up to day of harvest. The REI is 24 hours.

**PEACHES: Brown rot, scab;** Apply 4 to 8 pints CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment or in 10 to 20 gallons of water by air. To reduce the potential for disease resistance development to other fungicides having a similar spectrum, use the lower rates of CAPTAN 4L in tank mixes. Apply in full pink, bloom, petal fall, shuck stages, and in cover and preharvest sprays. When conditions are favorable, make applications at 3- to 4-day intervals during bloom to control blossom blight. Then repeat application at 7- to 14-day intervals as needed to maintain control. Continue applications through harvest if conditions favor brown rot. If powdery mildew is a problem, add 12 pounds sulfur per acre to the petal fall, shuck, and early cover spray. If sulfur is added, CAPTAN 4L may be reduced to 4 pints per acre in these sprays. **Coryneum blight (peach blight, shothole);** Apply 8 pints CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Apply in pink bud, full bloom, petal fall stages, and cover sprays as necessary and as a post harvest spray (but before leaves drop). Do not apply more than 64 pints per acre per crop cycle (including postharvest sprays). Pre-harvest sprays may be applied up to day of harvest. The REI is 24 hours.

**PLUMS, FRESH PRUNES (Eastern U.S.): Brown rot;** Apply 6 pints CAPTAN 4L per acre in 20 to 300 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Apply in full pink, bloom, and petal fall sprays. Repeat applications at 7- to 14-day intervals as needed to maintain control. Continue applications through harvest if conditions favor brown rot. The addition of a neutral spreader has improved coverage. Do not apply more than 54 pints per acre per crop cycle. May be applied up to day of harvest. The REI is 24 hours.

**PLUMS, FRESH PRUNES (Western U.S.): Brown rot;** Apply 4 to 6 pints CAPTAN 4L per acre in 20 to 300 gallons of water using ground equipment or in 10 to 20 gallons of water by air. Use lower rates when tank mixes with fungicides of similar spectrum of activity are used. Apply at green bud, popcorn, bloom, and petal fall stages. Repeat in cover sprays as conditions warrant. **Prune russet scab (lacy scab);** Apply 4 to 6 pints CAPTAN 4L per acre in 20 to 300 gallons of water using ground equipment. Apply at full bloom. Do not apply more than 54 pints per acre per crop cycle. May be applied up to day of harvest. The REI is 24 hours.

**STRAWBERRIES: Botrytis (gray mold), leaf spot;** Apply by broadcast spray at 3 to 6 pints CAPTAN 4L per acre in sufficient water for thorough coverage by ground equipment or in 10 to 20 gallons of water by air. Begin applications when new growth starts in the spring and before fruit starts to form. Repeat at 7- to 14-day intervals. Under conditions favorable to fruit rot, continue applications through harvest period treating immediately after each picking. Do not apply more than 48 pints per acre per year. May be applied up to day of harvest. The REI is 24 hours.

If applying as a directed/banded spray; use band rate of Captan 4L according to the following formula:

$$\frac{\text{Plant Bed Width (inches)}}{\text{Row Spacing (inches)}} \times \text{Broadcast rate per acre} = \text{Banded rate of Captan 4L per acre}$$

**SPECIAL USES**

**PEACH PREPLANT ROOT DIP (California):** Preventative preplant dip treatment for crown gall; Use 4 pints CAPTAN 4L plus 3.2 pints diluted sodium hypochlorite (5.25% household bleach) per 100 gallons of water. Wash nursery trees to remove soil from roots. Cut off all dormant buds and suckers in crown area and prune root system if necessary. Submerge the entire dormant tree for 5 minutes. Recharge dip during operation at a rate of 3.2 pints diluted sodium hypochlorite per 100 gallons of water.

**POSTHARVEST FRUIT APPLICATION:** For control of various molds and storage rots (Botrytis, Gleosporium, Rhizopus). Use as a post harvest dip or spray wash on the following fruits: Apples, Cherries, Pears; Use 2½ pints CAPTAN 4L per 100 gallons of water. Apply as a spray or in a dip tank. When used as a dip, recharge wash solution periodically when tank volume is reduced by 25%. Bring water back to volume and add 2½ pints CAPTAN 4L for each 100 gallons added. At end of every 8-hour shift, empty tank, flush, and charge with fresh dilution. Do not allow tank solution to stand overnight. Maintain continuous agitation during dipping operation. For use in mechanical fruit-dip operations only. Hand dipping of fruit is prohibited. Do not allow contact or allow others to contact the treated fruit until sprays have dried.

**DISPOSAL OF LEFTOVER POSTHARVEST TREATMENT MIXTURE:** Leftover dip or spray mixtures containing Captan may be used as a foliar spray for the same crop in case of apples and cherries (but not pears) as treated

by the dip or spray mixture, or to registered turf and ornamentals sites, observing all restrictions such as maximum pounds applied per application and season.

When calculating application rates, if analytical services are not available to determine the exact quantity of Captan remaining in the mixture, assume that the tank still contains 2½ pints of CAPTAN 4L per 100 gallons of water. If the dip or spray mixture contains other pesticides in addition to CAPTAN 4L, refer to the product label(s) for information regarding disposal. CAPTAN 4L wastes are acutely hazardous to the eyes. Improper disposal of spray or dip tank mixtures is a violation of Federal Law. If the leftover dip or spray mixture cannot be disposed of in the manner prescribed above, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance concerning the disposal of spent or excess dip tank mixtures.

**ORNAMENTALS - Use Precautions**

Do not apply spray to ornamental plants listed below beyond the point of drip from the leaf surface. Apply only sufficient mixture to wet the surface of the soil except when the dose is specified in terms of volume of mixture per square foot of area. See the AGRICULTURAL USE REQUIREMENTS box to determine the REI.

**AZALEAS: Damping-off of cuttings;** Use 4 pints CAPTAN 4L per 107 gallons of water. Dip cuttings in mixture before bedding. **Petal blight;** Use 2 pints CAPTAN 4L per 100 gallons of water. Apply to soil around plants and spray plants just before bloom. Repeat at 7- to 14-day intervals through bloom.

**BEGONIAS (Tuberous): Damping-off, tuber rot;** Use 4 pints CAPTAN 4L per 100 gallons of water. Dip tubers in mixture for 30 minutes, drain, and plant.

**CAMELLIAS: Petal blight;** Use 1 pint CAPTAN 4L per 100 gallons of water. Apply to drench soil around plants beginning when flowers start to open. Repeat at 7- to 10-day intervals through bloom.

**CARNATIONS: Alternaria leaf spot, rust;** Use 2 pints CAPTAN 4L per 100 gallons of water. Begin application at first sign of disease. Repeat at 7- to 10-day intervals. Shorten intervals if there are frequent rains and heavy dews. **Damping-off of cuttings;** Use 4 pints CAPTAN 4L per 107 gallons of water. Dip cuttings in mixture before bedding.

**CHRYSANTHEMUMS: Botrytis flower blight, Septoria leaf spot;** Use 2 pints CAPTAN 4L per 100 gallons of water. Apply at first sign of disease. Repeat at 7- to 10-day intervals. **Damping-off of cuttings;** Use 4 pints CAPTAN 4L per 107 gallons of water. Dip cuttings in mixture before bedding.

**DICHONDRA (California only): White Mold;** Use 2 pints Captan 4L Wettable per 100 gallons of water. Apply 1 gallon of spray per 10 square feet. Make 2 to 3 applications at 7-day intervals.

**GLADIOLUS (Corms): Corm rot and decay, damping-off;** Use ½ to 1½ pints CAPTAN 4L per 10 gallons, dip corms 20 to 30 minutes. Drain and plant.

**GRASSES (Ornamental in Non-Pastured Areas Only): Leaf spot, damping-off, brown patch, melting out, seedling blights, and brown spot on St. Augustine grass;** Use 2 pints CAPTAN 4L per 100 gallons of water. Apply 10 gallons spray per 1,000 square feet. Begin when growth starts in spring. Repeat at 7- to 14-day intervals throughout season. Do not graze treated areas or feed clippings to livestock.

**GRASSES (Lawn Seedbeds): Damping-off and other soil borne diseases;** Use 1/4 to 1/3 pint CAPTAN 4L per 1,000 square feet or 2 pints CAPTAN 4L per 100 gallons of water, using 15 gallons spray per 1,000 square feet. Cultivate into upper 3 to 4 inches before planting.

**ROSES: Black spot, Botrytis blossom blight;** Use 2 pints CAPTAN 4L per 100 gallons of water. Begin at first growth or first sign of disease. Repeat at 7- to 14-day intervals, and more frequently during frequent rains and heavy dews.

**SOIL AND GREENHOUSE BENCH TREATMENT: Preplant treatment for damping-off, root rot diseases on seedling or transplants of roses (and other shrubs, trees, flowers) and lawn seedbeds;** Use 2 pints CAPTAN 4L per 100 gallons of water at a rate of 15 gallons spray per 1,000 square feet. Cultivate into upper 3 to 4 inches of soil before planting.

For PRODUCT USE Information Call 1-866-406-MANA (6262).

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### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep pesticide in original container. Keep container tightly closed when not in use. Protect from excessive heat. Store in a cool, dry place.

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

#### CONTAINER HANDLING:

**Nonrefillable Container (five gallons or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container 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 dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (greater than five gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a 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. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Refillable Container (greater than 55 gallons):** Refillable container. Refill this container with captan 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. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

### LIMITATION OF WARRANTY AND LIABILITY

Read the entire directions for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES, and LIMITATIONS OF LIABILITY.**

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in

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contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc.'s election, the replacement of product.

Captan 4L (66222-66)(notif to EPA 12-22-08) (Notif to EPA 10-1-12)