



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7504P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

85678-13

Date of Issuance:

JUN 14 2011

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:  
Conditional

Name of Pesticide Product:  
CAPTAN 4L

Name and Address of Registrant (include ZIP Code):

RedEagle International LLC  
c/o Wagner Regulatory Associates, Inc. (Agent)  
P.O. Box 640; 7217 Lancaster Pike, Suite A  
Hockessin, DE 19707

Attn: Catherine Byrd

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A), provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.

Signature of Approving Official:

Date:

JUN 14 2011

Tony Kish, Product Manager, Team 22  
Fungicide Branch, Registration Division (7504P)

2. Submit one copy of the revised final printed label which makes the following changes before the product is released for shipment.
  - A. To top of first page add "Group M Fungicide" enclosed in a box as on the Me-Too label.
  - B. At the bottom of page 8 before "Use Precautions" add the entire missing resistance management section from the Me-Too label.
3. As a condition of registration the following studies are required by 6/15/2012:
  - a. Submit one year storage stability (830.6317) and corrosion characteristics (830.6320) data. It is required that the observations be made at 0, 3, 6, 9, and 12 month intervals. The results must be submitted to the Agency in electronic and hard copy format.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A copy of the label stamped "Accepted with Comments" is enclosed for your records.



# CAPTAN 4L

**ACCEPTED**  
with **COMMENTS**  
In EPA Letter Dated  
**JUN 14 2011**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

**ACTIVE INGREDIENT:**

\*Captan ..... 37.7% *85678-13*  
Related Derivatives ..... 0.5%

**OTHER INGREDIENTS:** ..... 61.8%

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

\*N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide  
(Contains 4 lbs. of Captan per gallon)

## KEEP OUT OF REACH OF CHILDREN DANGER/PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand this label, find someone to explain it to you in detail.)

See inside of booklet for complete Precautionary Statements and Directions For Use.

EPA Reg. No. 85678-

EPA Est. No.

### FIRST AID

**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.

**IF SWALLOWED:**

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

**IF INHALED:**

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

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of a gastric lavage. Have the product container or label with you when calling Poison Control Center or doctor or going for treatment.

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**EMERGENCY TELEPHONE NUMBERS: FOR CHEMICAL EMERGENCY:** Spill, leak, fire, exposure, and accident call CHEMTREC 1-800-424-9300.

## Precautionary Statements

### Hazards To Humans And Domestic Animals

#### DANGER PELIGRO

CORROSIVE. Causes irreversible eye damage. Harmful if swallowed or inhaled. Harmful if absorbed through skin. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

## PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are polyethylene and polyvinyl chloride. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, flaggers, and other handlers (including handlers participating in seedling and transplanting as part of root dip treatments) must wear:

- Long sleeve shirt and pants,
- Shoes plus socks,
- Chemical-resistant gloves (except for flaggers, pilots, and applicators driving motorized equipment,)
- Chemical resistant apron when mixing/loading, participating in dip treatments, cleaning up spills, cleaning equipment, or otherwise exposed to the concentrate.
- Goggles or face shield

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.

## Engineering Control:

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 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 product is toxic to aquatic organisms. Do not apply directly to water, 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. This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several

months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

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 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:

- 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 blueberries, raspberries, grapes, sod farms and ornamentals grown for commercial research.

Do not enter or allow worker entry into treated areas during the REI. **The REI for each crop is listed in the directions for use associated with each crop.**

**EARLY ENTRY PPE**

PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is:

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

**EYE PROTECTION**

To mitigate eye irritation concerns from post-application exposures, the Agency is requiring that 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 treated with captan, and
2. Workers must be informed orally, in a manner they can understand:
  - a. That residues in the treated area may be highly irritating to their eyes,
  - b. That they should take precautions, such as refraining from rubbing their eyes to keep the residues out of their eyes.
  - c. 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
  - d. On how to operate the eyeflush container.

**DOUBLE NOTIFICATION**

Notify workers of the application by warning them orally or by posting warning signs at the entrances to treated areas.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the WPS 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.

**Entry Restrictions for All Other Uses**

Do not enter or allow others to enter until sprays have dried.

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 drift of captan onto sensitive crops (e.g. D'Anjou Pears) which 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 MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of the 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.

Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles. Apply only when the wind speed is 2-10 mph at the application site.

**ADDITIONAL REQUIREMENTS FOR AERIAL APPLICATIONS**

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

Do not make applications into temperature inversions.

**ADDITIONAL REQUIREMENTS FOR GROUND BOOM APPLICATION**

Do not apply with a nozzle height greater than 4 feet above the crop canopy. 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** 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.

## 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 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

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).

## 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. Do not apply captan in combination with or immediately before or closely following oil sprays. The time factor governing the safe interval between captan 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 and sulfur should not be used on crops sensitive to sulfur. Used at high rates or in drenching sprays, captan 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 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.

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

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maintain control, but observe use limitations. Unless otherwise specified, application can be made on day of harvest. Maximum application is for a crop cycle. Crop cycle is defined as pre-bloom through harvest. Apply the high rate and/or spray at shorter intervals when climatic conditions most 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 specified.

### 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 4.5 qts CAPTAN 4L per acre in 20 to 300 gallons of water using ground equipment or in 5 to 20 gallons of water by air. Apply at popcorn, bloom and petal fall stages and up to 5 weeks after petal fall.

The maximum application rate is 4.5 qts of CAPTAN 4L per acre (4.5 lb ai/acre). Do not apply more than 20 qts or 20 lbs active ingredient per acre per season. Preharvest Interval (PHI) = 30 days. Note the restricted entry interval (REI) is 24 hours. Almond hulls may be fed to livestock.

**APPLES (Eastern U.S.):** Primary scab, black rot (frog-eye), botrytis blossom end rot - Apply 4 qts 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 cover sprays.

Secondary scab, Brooks fruit spot, sooty blotch, fly speck, black rot, black pox, botryosphaeria rot, bitter rot - Apply 4 qts 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.

Powdery mildew - If powdery mildew is a problem add 3 to 6 lbs. of sulfur per acre to all post-bloom sprays until foliage matures. 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 maximum application rate is 4 qts of CAPTAN 4L per acre (4 lb ai/acre). Do not apply more than 32 qts (32 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**APPLES (Western U.S.):** Primary scab - Apply 4 qts CAPTAN 4L per acre in a high volume application for preblossom sprays. In mid-summer, the dosage may be reduced to 2 qts per acre in high volume application. Dilute in 20 to 400 gallons of water per acre using ground equipment or in 5 to 20 gallons of water by air.

**(Pacific Northwest)** - Bull's eye rot, Botrytis rot - Apply 4 qts CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment or 5 to 20 gallons of water by air. Make 1 or 2 applications with late cover sprays and 1 final spray prior to harvest.

The maximum application rate is 4 qts of CAPTAN 4L per acre (4 lb ai/acre). Do not apply more

than 32 qts (32 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**APRICOTS:** Brown rot (twig blight), jacket rot - Apply 2.5 qts CAPTAN 4L per acre in 20 to 250 gallons of water using ground equipment or 10 to 20 gallons of water by air. Apply in red bud, bloom, 75% petal fall, and cover sprays.

The maximum application rate is 2.5 qts of CAPTAN 4L per acre (2.5 lb ai/acre). Do not apply more than 12.5 qts (12.5 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**BLUEBERRIES (Western U.S.):** Botrytis gray mold or berry rot, mummy berry - Apply 1 to 2.5 qts 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.

The maximum application rate is 2.5 qts of CAPTAN 4L per acre (2.5 lb ai/acre). Do not apply more than 35 qts (35 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 48 hours.

**BLUEBERRIES (Eastern U.S.):** Botrytis gray mold or berry rot, mummy berry - Apply 2.5 lbs. 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 and when earliest buds have loose scales. Repeat at 7 day intervals through blossom period. Repeat at 7 to 10 day intervals from late bloom. The maximum application rate is 2.5 qts of CAPTAN 4L per acre (2.5 lb ai/acre). Do not apply more than 35 qts (35 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 48 hours.

**CHERRIES (Eastern U.S.):** Brown rot, leaf spot, Botrytis rot - Apply 2 qts 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 pre-harvest sprays. Applications at 3 to 4 day intervals may be necessary during bloom to control blossom blight. Repeat applications at 7 to 10 day intervals as needed to maintain control up to start of harvest. If powdery mildew is a problem add 3 to 6 lbs. sulfur per acre to the petal fall, shuck or early cover sprays. If sulfur is added, CAPTAN 4L may be reduced to 1 qt per acre in these sprays.

The maximum application rate is 2 qts of CAPTAN 4L per acre (2 lb ai/acre). Do not apply more than 14 qts (14 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**CHERRIES (Western U.S.):**

Brown rot blossom blight, brown rot (fruit), leaf spot - Apply 2 qts 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.

The maximum application rate is 2 qts of CAPTAN 4L per acre (2 lb ai/acre). Do not apply more than 14 qts (14 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**GRAPES (U.S., except CA):**

Phomopsis cane and leaf spot, downy mildew, suppression of black rot - Apply 1 to 2 qts CAPTAN 4L per acre in 20 to 200 gallons 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 3-5 inches long, and when shoots are 9 - 12 inches long.

Repeat just before bloom, immediately after bloom, and continue at 10-14 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.

Bunch rot (Botrytis) – Apply 2 quart 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 bunches close.

The maximum application rate is 2 qts of CAPTAN 4L per acre (2 lb ai/acre). Do not apply more than 12 qts (12 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 48 hours.

#### **GRAPES (California):**

Bunch rot (Botrytis) - Apply 2 qts CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment. 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 1.5 to 2 qts CAPTAN 4L per acre in 20 to 200 gallons of water using ground equipment. Apply 2 qts 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.

The maximum application rate is 2 qts of CAPTAN 4L per acre (2 lb ai/acre). Do not apply more than 12 qts (12 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 48 hours.

**NECTARINES (U.S.):** Brown rot, scab – Apply 2.5 qts 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 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 7.5 lbs. sulfur per acre to the petal fall, shuck and early cover spray. If sulfur is added, CAPTAN 4L may be reduced to 1.5 qts per acre in these sprays.

Coryneum blight (peach blight, shothole) - Apply 4 qts CAPTAN 4L per acre in 20 to 250 gallons of water using ground equipment. Apply in pink bud, full bloom, petal fall and cover sprays as necessary. Do not apply by aerial applications to nectarines.

The maximum application rate is 4 qts of CAPTAN 4L per acre (4 lb ai/acre). Do not apply more than 24 qts (24 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**PEACHES (U.S.):** Brown rot, scab – Apply 4 qts CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment. 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 lbs. sulfur per acre to the petal fall, shuck and early cover spray. If sulfur is added, CAPTAN 4L may be reduced to 2 qts per acre in these sprays.

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Coryneum blight (peach blight, shothole) - Apply 4 qts CAPTAN 4L per acre in 20 to 400 gallons of water using ground equipment. Apply in pink bud, full bloom, petal fall stages and cover sprays as necessary. Do not apply more than 64 lbs. per acre per crop cycle.

The maximum application rate is 4 qts of CAPTAN 4L per acre (4 lb ai/acre). Do not apply more than 32 qts (32 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**PEACHES (Nursery Stock) (California):** Preventative preplant dip treatment for crown gall. Use 2 qts 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 as necessary to maintain a proper concentration of 200 ppm chlorine. Check the concentration frequently using a chlorine test kit.

**PLUMS, FRESH PRUNES (Eastern U.S.):** Brown rot - Apply 3 qts 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.

The maximum application rate is 3 qts of CAPTAN 4L per acre (3 lb ai/acre). Do not apply more than 27 qts (27 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**PLUMS, FRESH PRUNES (Western U.S.):** Brown rot - Apply 3 qts 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 at green bud, popcorn, bloom and petal fall stages. Repeat in cover sprays as conditions warrant.

Prune russet scab (lacy scab) - Apply 3 qts CAPTAN 4L per acre in 20 to 300 gallons of water using ground equipment. Apply at full bloom.

The maximum application rate is 3 qts of CAPTAN 4L per acre (3 lb ai/acre). Do not apply more than 27 qts (27 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

**RASPBERRIES, BLACKBERRIES AND DEWBERRIES:** For the control of Anthracnose, Botrytis and spur blight – Apply 2 qts of CAPTAN 4L per acre when blossoms are in bud (young canes are 8-10" long). Make second application two weeks later. Apply a fall spray after old canes are removed.

For the control of Fruit rot – Apply 2 qts of CAPTAN 4L per acre at early bloom (5 to 10% bloom) and again at full bloom. Additional applications can be made at 10-14 day intervals as needed. Do not apply within 3 days of harvest (PHI = 3 days).

Apply CAPTAN 4L as indicated above in 45-100 gallons of water per acre using ground equipment or in 10-20 gallons of water by air. Use the higher volume as foliage increases. Do not apply more than 10 qts of CAPTAN 4L per acre per crop cycle (10 lbs ai/acre per crop cycle). Note the REI is 48 hours.

**STRAWBERRIES:** Botrytis (gray mold), leaf spot - Apply 3 qts 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.

Anthracnose Fruit rot (*Colletotrichum acetatum*) – Apply 3 qts CAPTAN 4L per acre in sufficient water for thorough coverage by ground equipment. Begin applications at flower bud emergence. Apply at 7 day intervals through harvest.

The maximum application rate is 3 qts of CAPTAN 4L per acre (3 lb ai/acre). Do not apply more than 24 qts (24 lbs active ingredient) per acre per season. PHI = 0 days. Note the REI is 24 hours.

When applying as directed/banded spray, use band rate of CAPTAN 4L according to the following formula:

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

## ORNAMENTALS

### USE PRECAUTIONS

Do not apply spray to ornamental plants beyond the point of drip from the leaf surface. When applying as a drench, 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.

### POST-APPLICATION/ENTRY RESTRICTIONS

For applications to ornamentals at non-commercial sites and golf-course turfgrass, do not enter or allow others to enter until sprays have dried. The REI for ornamentals grown for commercial or research use is 48 hours.

### AZALEAS

Damping-off of cuttings: Use 2.0 quarts CAPTAN 4L per 107 gallons of water. Dip cuttings before bedding. Petal Blight: Use 1.0 quart CAPTAN 4L per 100 gallons of water. Apply to the soil around the plants and spray flowers just before bloom. Repeat at 7 to 14 day intervals through bloom.

### BEGONIAS (Tuberous)

Damping-off, tuber rot: Use 2 quarts CAPTAN 4L per 100 gallons of water. Dip tubers for 30 minutes, drain and plant.

### CAMELLIAS

Petal Blight: Use 0.5 quart 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 Leafspot, Rust: Use 1 quart CAPTAN 4L per 100 gallons of water. Begin application at first sign of disease. Repeat at 7 to 10 day intervals. Shorten intervals during frequent rains and heavy dews. Damping-off cuttings – Use 1 quart CAPTAN 4L per 100 gallons of water. Dip cuttings before bedding.

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**CHRYSANTHEMUM**

Botrytis Flower Blight, Septoria Leafspot: Use 1 quart 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 2 quarts CAPTAN 4L per 100 gallons of water. Dip cuttings in mixture before bedding.

**DICHONDRA (California only)**

White Mold: Use 1 quart CAPTAN 4L per 100 gallons of water using 1 gallon of spray for every 10 square feet, making 2 to 3 applications at 7 day intervals.

**GLADIOLUS (Corms)**

Corm Rot and Decay, Damping-off: Use 6 fl oz (3/16 qt) CAPTAN 4L per 10 gallons of water, dip corms 20 to 30 minutes. Drain and plant.

**TURF (golf course)**

Leafspot, Damping-off, Brown Patch, Melting Out, Seedling Blights, Brown Spot on St. Augustine Grass: Use 1 quart CAPTAN 4L per 100 gallons of water. Apply 10 gallons spray per 1000 square feet. Begin when growth starts in spring. Repeat at 7 to 14 day intervals throughout the season. Do not graze treated areas or feed clippings to livestock. The maximum application rate for turf (golf course) is 4.3 qts CAPTAN 4L (4.3lb ai/acre) with a maximum seasonal application rate of 8.6 qts of CAPTAN 4L per acre (8.6 lb ai/acre).

Do not enter or allow others to enter until sprays have dried. Do not apply to turfgrass in residential sites including homes, apartment buildings, daycare centers, schools, playgrounds, parks, recreational areas, sports fields or residential areas.

**TURF (sod farms)**

Damping-off and other soil borne diseases – Use 0.1 qt CAPTAN 4L per 1000 square feet or 1 qt CAPTAN 4L per 100 gallons of water, using 10 gallons spray per 1000 square feet. Cultivate into upper 3 to 4 inches before planting. The maximum application rate for turf (sod farms) is 4.3 qts CAPTAN 4L per acre (4.3 lb ai/acre), with a maximum seasonal application rate of 8.6 qts CAPTAN 4L (8.6 lb ai/acre per season). Note the REI is 48 hours. Do not harvest sod until 48 hours after application.

**ROSES**

Black Spot, Botrytis Blossom Blight: Use 1 quart 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 rains and heavy dews.

**SOIL AND GREENHOUSE BENCH TREATMENT**

Pre-plant treatment for damping-off, root rot disease on seedlings or transplants of roses (and other shrubs, trees, flowers) and lawn seedbeds – Use 1 qt CAPTAN 4L per 100 gallons of water at a rate of 15 gallons of spray per 1000 square feet. Cultivate into upper 3 to 4 inches of soils before planting.

Only the applicator is permitted to be in the greenhouse during application of Captan. Open vents to greenhouse during application and for at least 1 hour after application.

Note the REI is 48 hours. Once the treatment and any seedling or transplanting tasks done as part of the treatment are complete, the 48-hour REI begins. Exception, once the seeds or transplants are



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planted in the soil, the WPS allows workers to enter the treated area without restriction if there will be no contact with the soil subsurface.

**SEED TREATMENT  
USE PRECAUTIONS**

Treated seed must not be used for human consumption or for animal feed.

Seed that has been treated with this product that is packaged or bagged for future use must contain the following labeling: “This bag contains seed treated with Captan. Persons opening this bag or loading or pouring the treated seed must wear long-sleeved shirt, long pants, shoes, socks and chemical resistant gloves.”

“Treated seed – Do not Use for Feed, Food, or Oil Purposes.”

CAPTAN 4L is an aqueous suspension suitable for the treatment of seed prior to storage and planting, to protect seed from molds and other fungi causing storage loss and to protect seed from seed-borne and soil-borne fungi which cause seed decay, damping-off and seedling blights.

Read all directions before using and use only as specified on the label.

Before using – stir thoroughly to mix contents.

Thoroughly mix the recommended amount of CAPTAN 4L into the required amount of water for the slurry treater equipment and dilution rate to be used. Clean equipment thoroughly between treating operations. Seed treated by the slurry method should not be bagged until such time as the seed has had an opportunity to dry. Store in well ventilated areas. If seed is bagged when wet, heat is developed and impairs germination.

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The following table gives recommended amounts of CAPTAN 4L to use on various seeds.

<b>SEED TREATMENT DOSAGE RATES</b>	
<b>SEED</b>	<b>DOSAGE (fl. oz./100 lb)</b>
Alfalfa, Clover, Lespedeza, Trefoil	8
Beans (snap, dry, cowpeas)*	2.6
Beets (table)	12
Cereal Grains (For seed and seedling rots – will not control bunt smut)	
Barley, Rye	3
Oats	4
Wheat	2
Cole Crops (Broccoli, Brussels sprouts, Cabbage, Cauliflower)	2.2
Corn	
Field	2.2
Sweet	4
Cotton	
Acid Delinted	5
Reginned	7
Fuzzy	7
Cucumber, Cantaloupe	3.2
Crucifers (Mustard, Rape)	1.6
Flax	4
Grasses	8.2
Sorghum Seed (Milo)	6
Onions (Pelleting)	1.6
Peanuts	6
Peas	2.6
Peppers (California Wonder)	2
Radish	2.2
Sorghum (Hulled) – For Kernel Smut	6
Soybeans	2.6
Spinach	6.6
Squash, Pumpkin, Watermelon, Muskmelon	2
Sugar Beets - West	6
Sugar Beets - East	12
Sunflowers	4
Swiss Chards	12
Turnips	3

\* Do not use on lima beans

Gladiola Bulbs – Prevention of bulb rot – Use 1 qt in 107 gallons of water. Soak bulbs in mixture 20 to 30 minutes.

Further specific information of the subject of seed treatment may be obtained from State Agricultural Experimental Stations of the State Agricultural Extension Service.

### 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 in original container. Store in a cool, dry place, but protect from temperatures below 110 degrees F. Protect from freezing temperatures (32 degrees F).

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excessive 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 DISPOSAL:

**NONREFILLABLE CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS):** 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  $\frac{1}{4}$  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, or puncture and dispose 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 5 GALLONS):** 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. Fill the container  $\frac{1}{4}$  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. Offer for recycling, if available, or puncture and dispose in a sanitary landfill, or by incineration, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

**WARRANTY AND DISCLAIMER STATEMENT**

Read the entire Directions for Use, Conditions, Disclaimer 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.

Treatment of highly mechanically damaged seed, or seed of known low vigor and poor quality may result in reduced germination and/or reduction of seed and seedling vigor. Treat and conduct germination tests on a small portion of seed before committing the total seed lot to a selected chemical treatment. Due to seed quality conditions beyond the control of RedEagle International LLC, no claims are made to guarantee germination of carry-over seed.

**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 RedEagle International LLC. To the extent allowable under State law, all such risks shall be assumed by the user or buyer.

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