

34704-1050

3/16/2010

1/34



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

**NOTICE OF PESTICIDE:**

Registration  
 Reregistration  
(under FIFRA, as amended)

EPA Reg. Number:

34704-1050

Date of Issuance:

MAR 16 2010

Terms of Issuance:  
Conditional

Name of Pesticide Product:  
Initiate ZN

**Name and Address of Registrant (include ZIP Code):**

Loveland Products, Inc.  
P.O. Box 1286  
Greeley, CO 80632-1286 Attn. Edith Emory

**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.

You must make the following label revisions:

Page 1, the EPA Reg. No. must be changed to 34704-1050.

(continued)

Signature of Approving Official:

Tony Kish  
Product Manager Team 22  
Fungicide Branch  
Registration Division (7505P)

Date:

MAR 16 2010

EPA Reg. No. 34704-1050

On page 1, after the Signal Word, add ""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)".

On page 2, change "Harmful if inhaled" to "May be fatal if inhaled". Add "Do not breathe spray mist." before "Avoid contact with skin, eyes, or clothing". Delete "avoid breathing spray mist. Avoid contact with eyes or clothing."

On page 3, add "To the extent consistent with applicable law" before "The buyer or user of this product assumes all such inherent risks".

On page 4, in the Directions for Use, change "Initiate Zn should", to "Initiate Zn must", and delete "or in separately published Loveland products, Inc. supplemental labeling recommendations". There are no supplemental labels for this new product. All labeling is on this master label.

On page 6, change "they should be observed" to "they must be observed".

On page 9 in the Cranberry section, 5<sup>th</sup> line in the application directions, change "9%" to "9 ¼ pints."

On page 11, delete the entire "Bean (snap)" section, and associated "Specific use restrictions" because they are not on the source label.

On page 15, in the Corn section, 9<sup>th</sup> line in the application directions, change "2% to 2% pints" to "2 ½ to 2 ¾ pints."

On page 18, under mint, add "(Indiana, Michigan, and Wisconsin only)", as on source product label.

On page 19, at the top in the Specific Use Restrictions section for garlic, delete the third bullet "Do not apply within 14 days of harvest on green bunching onions, leeks or shallots" as this is not on the source label.

On page 27, in the Specific Use Restrictions section at the end of the page, first bullet place a space between 22.5 and lbs (22.5 lbs. a.i.).

Submit one (1) copy of final printed labeling incorporating the above changes before you release the product for shipment. 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 your label stamped "Accepted with Comments" is enclosed for your records.

If you have any questions concerning this letter, please contact Rose Kearns of my staff by phone at 703-305-5611 or via email at kearns.rosemary@epa.gov or myself at 703-308-9443 or via email at kish.tony@epa.gov.

Enclosure – stamped label

ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
MAR 16 2010

# Initiate Zn

## Agricultural Fungicide

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

34704-1050

Active Ingredient:  
 Chlorothalonil (tetrachloroisophthalonitrile) ..... 38.5%  
 Other Ingredients: ..... 61.5%  
 Total: ..... 100.0%

Contains 4.17 pounds chlorothalonil per gallon (500 grams per liter)      ) ) ) ) )

**KEEP OUT OF REACH OF CHILDREN  
WARNING**

\*Covered by U.S. Pat. No. 5,667,795

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 34704-XXXX

EPA Est. 34704-MS-001

Net Contents: 1 gallon

| FIRST AID  |   |
|--|---|
| <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 mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further 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. Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</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>   |
| <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>Note to Physician</b>   |   |
| Persons suffering with temporary allergic skin reactions may respond to treatment with oral antihistamines and topical or oral steroids. |   |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment.                     |   |
| <b>FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT, CALL 1-866-944-8565</b>   |   |

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

#### WARNING

Harmful if absorbed through skin. Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Wear long-sleeved shirt and long pants, socks, shoes and chemical resistant gloves (such as natural rubber, Selection Category A). Remove and wash contaminated clothing before reuse. Avoid breathing spray mist. Avoid contact with eyes or clothing. 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 made of any waterproof material. If you want more options, follow the instructions for Category A on an EPA chemical resistance category selection chart.

#### Mixers, Loaders, Applicators and all other handlers must wear:

- long-sleeved shirt and long pants
- chemical resistant gloves made of any waterproof material
- shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### Engineering Control Statements

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 PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### Environmental Hazards

This product is toxic to aquatic invertebrates and wildlife. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high

5  
/ 34

water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

### **CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT**, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. **EXCEPT AS WARRANTED IN THIS LABEL AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THIS PRODUCT IS SOLD "AS IS," AND LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.**

**IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL AND TO THE EXTENT REQUIRED BY APPLICABLE LAW, BUYER OR USER MUST SEND WRITTEN NOTICE OF ITS CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, P.O. BOX 1286, GREELEY, CO 80632-1286.**

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

### DIRECTIONS FOR USE

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

Initiate Zn should be used only in accordance with recommendations on this label or in separately published Loveland Products, Inc. supplemental labeling recommendations for this product.

Do not apply this product in a way that will contact workers, other persons or pets, 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.**

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

- coveralls
- chemical resistant gloves made of any waterproof material
- shoes plus socks
- protective eyewear

**(Continued)**

***(continued from previous page)***

**Special Eye Irritation Provisions:** This product is a severe eye irritant. Although the restricted-entry interval expires after 12 hours, for the next 6.5 days entry is permitted only when the following safety measures are provided:

- 1) At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site intended for workers entering the treated area.
- (2) Workers must be informed, 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 the residue out of their eyes
  - that if they do get residues in their eyes, they should immediately flush their eyes using the eyeflush container that is located at the decontamination site, or using other readily available clean water
  - how to operate the eyeflush container

### **GENERAL INFORMATION**

Initiate Zn is an excellent disease control agent when used according to label directions for control of a broad spectrum of plant diseases.

Initiate Zn is recommended for use in programs which are compatible with the principles of Integrated Pest Management (IPM), which include the use of disease resistant crop varieties, cultural practices, pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides.

Initiate Zn is effective for strategic use in programs that attempt to minimize disease resistance to fungicides. Some other fungicides which are at risk from disease resistance exhibit a single-site model of fungicidal action. Initiate ZN, with a multi-site mode of action, may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your Federal or State Cooperative Extension Service representatives for guidance on the proper use of Initiate ZN in programs which seek to minimize the occurrence of disease resistance to other fungicides.

Initiate Zn can be used effectively in dilute or concentrate sprays. Thorough, uniform coverage is essential for disease control.

#### **General Precautions and Restrictions**

Do not use on greenhouse-grown crops.

This product must not be applied within 150 feet for aerial applications, or 25 feet for ground applications of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Do not combine Initiate Zn in the spray tank with pesticides, surfactants or fertilizers, unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use. Do not combine Initiate Zn with Dipel<sup>®</sup>, Latron B-1956<sup>®</sup> or Latron AG-98<sup>®</sup> as phytotoxicity may result from the combination when applied to some crops on this label.

### **Spray Drift Precautions**

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 forestry applications, public health uses or applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  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 Information**

[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 conditions (See **Wind, Temperature**).

#### **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.



9  
34

- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting the 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 increased 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 potential.

### **Boom Length**

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  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 ft. 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 downwind. Therefore, on the upwind 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, nontarget crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

## **APPLICATION**

**Note:** Slowly invert container several times to assure uniform mixture.

Dosage rates on this label indicate pints of Initiate ZN per acre, unless otherwise stated. Under conditions favoring disease development, the high rate specified and shortest application interval should be used.

The required amount of Initiate ZN should be added slowly into the spray tank during filling. With concentrate sprays, pre-mix the required amount of Initiate ZN in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations.

Apply Initiate ZN in sufficient water to obtain adequate coverage of foliage. Gallonage to be used will vary with crop and amount of plant growth.

For field and row crops, spray volume usually will range from 20 to 150 gallons per acre For dilute sprays and 5 to 10 gallons per acre for concentrate ground sprays and aircraft applications.

For tree and orchard crops, apply Initiate ZN in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. For fruit and nut bearing crops, the maximum volume is 300 gallons per acre unless indicated otherwise in the specific use directions. For conifers, the maximum volume is 100 gallons per acre.

### **Application and Calibration Techniques for Sprinkler Irrigation - Chemigation**

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system.

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

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

Do not apply this product through irrigation systems connected to a public water system. "Public water system" means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

**Always inject Initiate ZN into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.**

Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. Do not apply when wind speed favors drift beyond the area intended for treatment.

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

Initiate ZN may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type.

#### **A. Center Pivot, Motorized Lateral Move and Traveling Gun Irrigation Equipment**

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Thoroughly mix recommended amount of Initiate ZN for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until Initiate ZN has been cleared from last sprinkler head.

#### **B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) Irrigation Equipment**

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of Initiate Zn for acreage to be covered with water so that the total mixture of Initiate Zn plus water in the injection tank is equal to the quantity of water used during calibration and operate entire system at time established during calibration. Agitation is recommended. Initiate Zn can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until Initiate Zn has been cleared from the last sprinkler head.

### DIRECTIONS FOR APPLICATION

| CROP        | DISEASES<br>(Pathogen)                                  | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS   |
|-------------|---|----------------------------|--|
| Bean (Snap) | Rust<br>( <i>Uromyces appendiculatus</i> )              | 2 to 4¼<br>(1.0 to 2.25)   | Use in sufficient water to obtain adequate coverage. Begin application during early bloom stage or when disease first threatens and repeat as necessary (the minimum retreatment interval is 7 days) to maintain control.<br><br>Apply by ground, air, or chemigation. |
|             | Botrytis blight<br>(gray mold)<br>( <i>B. Cinerea</i> ) | 4¼<br>(2.25)               |  |

**Specific use restrictions:**

- Do not apply more than 17 pints of Initiate Zn (9.0 lbs. a.i.) per acre during each growing season.
- Do not apply within 7 days of harvest.

| CROP  | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS  |
|---|---|----------------------------|---|
| <b>Beans (Dry)</b><br>(except soybeans)<br><b>bean, adzuki</b><br><b>bean, broad</b><br><b>bean, dry</b><br><b>bean, lablab</b><br><b>bean, navy</b><br><b>bean, kidney</b><br><b>bean, lima</b><br><b>bean, moth</b><br><b>bean, mung</b><br><b>bean, pink</b><br><b>bean, pinto</b><br><b>bean, tepary</b><br><b>bean, urd</b><br><b>bean,</b><br>yardlong<br><b>catjang</b><br><b>chickpea</b> | Anthracnose<br>( <i>Colletotrichum lindemuthianum</i> )<br><br>Ascochyta blight<br>( <i>A. phaseolorum</i> )<br><br>Cercospora leaf blotch<br>( <i>C. cruenta</i> )<br><br>Downy mildew<br><i>Phytophthora nicotianae</i><br><br>Rust<br>( <i>Uromyces appendiculatus</i> ) | 2 to 2¾<br>(1.0 to 1.5)    | Use in sufficient water to obtain adequate coverage. Begin applications at first onset of disease, which may occur as early as 2 to 4 weeks before flowering. Repeat applications at 7 to 10 day intervals (the minimum retreatment interval is 7 days). For use only on beans to be harvested dry with pods removed.<br><br>Apply by ground, air or chemigation. |

|  |  |  |  |
|--|--|--|--|
| (garbanzo)<br><b>cowpea</b><br><b>lupin</b> , grain<br><b>lupin</b><br><b>bean</b> , rice<br><b>bean</b> , runner<br><b>bean</b> ,<br>jackbean<br><b>pea</b> ,<br>blackeyed<br><b>pea</b> , southern |  |  |  |
|--|--|--|--|

**Specific Use Restrictions:**

- Do not apply more than 11.5 pints of Initiate Zn (6 lbs. a.i.) per acre during each growing season.
- Do not apply within 14 days before harvest.

| CROP               | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS   |
|--------------------|---|----------------------------|--|
| <b>Blueberries</b> | <b>Suppression:</b><br><br>Anthracnose<br>(ripe rot)<br>(C.<br><i>gloeosporoides</i> )<br><br>Mummy berry<br>(M.<br><i>vacciniicorymbos</i> ) | 4¼ to 5¾<br>(2.25 to 3.0)  | Initiate Zn should be integrated into an overall disease management strategy which includes alternation with a fungicide with a different mode of action. Diseases may only be suppressed and russetting may occur under heavy disease pressure or unfavorable environmental conditions.<br><br>Apply in sufficient water to obtain adequate coverage, normally 20 to 100 gallons per acre. Begin applications at bud break (green tip) and repeat at 10-day intervals through early bloom (the minimum re-treatment interval is 10 days). Under heavy disease pressure, use the higher rate.<br><br>Apply by ground or air. |

| CROP | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS   |
|------|---|----------------------------|--|
|      | Rust<br>( <i>Pucciniastrum vaccinii</i> )<br><br>Septoria leaf spot<br>( <i>Septoria albopunctata</i> ) | 4¼ to 5¾<br>(2.25 to 3.0)  | <b>Foliar Use After Harvest</b> (after all berries are harvested): To maintain healthy leaves for the following season, apply in sufficient water to obtain adequate coverage (normally 20 to 100 gallons per acre). Repeat at 10 to 14 day intervals (the minimum re-treatment interval is 10 days).<br><br>Apply by ground or air. |

**Specific Use Restrictions:**

- Do not apply more than 17 pints of Initiate Zn (9.0 lbs. a.i.) per acre during each growing season.
- Do not apply after full bloom (except for foliar use after harvest) or within 42 days of harvest.

| CROP   | DISEASES<br>(Pathogen)   | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS  |
|--|--|----------------------------|---|
| <b>Cabbage</b><br><b>Chinese Cabbage</b><br>(tight-headed varieties only)<br><b>Cauliflower</b><br><b>Broccoli</b><br><b>Chinese Broccoli</b><br><b>Brussels Sprouts</b> | Alternaria leaf spot<br>( <i>Alternaria</i> spp.)<br><br>Downy mildew<br>( <i>Peronospora parasitica</i> ) | 2¼<br>(1.125)              | Use in sufficient water to obtain adequate coverage. Begin applications after transplants are set in field, or shortly after emergence of field-seeded crop, or when conditions favor disease development. Repeat at 7 to 10 day intervals (the minimum re-treatment interval is 7 days) to maintain control.<br><br>Apply by ground, air or chemigation. |
|  | Ring spot<br>(California only)   | 2¾<br>(1.5)                | For field-seeded Brussels sprouts, begin applications at time of early sprout development or when conditions favor disease development. Repeat at 7 to 10 day intervals (the minimum re-treatment interval is 7 days) to maintain control.  |

**Specific Use Restrictions:**

- Do not apply more than 23 pints of Initiate Zn (12 lbs. a.i.) per acre during each growing season.
- Do not apply within 7 days of harvest.

| CROP   | DISEASES (Pathogen)                           | Product/A (lbs. a.i./A)    | APPLICATION DIRECTIONS  |
|--------|---|----------------------------|---|
| Carrot | Alternaria leaf blight<br>( <i>A. dauci</i> ) | 2¼ to 2¾<br>(1.125 to 1.5) | Use in sufficient water to obtain adequate coverage. Start applications when disease threatens and repeat at 7 to 10 day intervals (the minimum re-treatment interval is 7 days) to maintain control.<br><br>Apply by ground, air or chemigation. |
|        | Cercospora leaf spot<br>( <i>C. carotae</i> ) |                            |   |

**Specific Use Restrictions:**

- Do not apply more than 29 pints of Initiate Zn (15 lbs. a.i.) per acre during each growing season.
- Initiate Zn may be applied the day of harvest.

| CROP                                       | DISEASES (Pathogen)                              | Product/A (lbs. a.i./A)                    | APPLICATION DIRECTIONS   |
|--|--|--|--|
| Celery                                     | Basal stalk rot<br>( <i>Rhizoctonia solani</i> ) | 2¾ to 4¼<br>(1.5 to 2.25)                  | Use in sufficient water to obtain adequate coverage. Start applications when transplants are set in the field and repeat at a 7 day interval as needed to maintain control (the minimum retreatment interval is 7 days).<br><br>Apply by ground, air or chemigation. |
|  | Early blight<br>( <i>Cercospora apii</i> )       |  |  |
|  | Late blight<br>( <i>Septoria apicola</i> )       |  |  |
|  | <b>Suppression</b><br>(7 day schedule):          | 4¼<br>(2.25)                               |  |
| Early blight<br>( <i>Cercospora apii</i> ) | Late blight<br>( <i>Septoria apicola</i> )       | 2¾ to 2¾<br>(1.125 to 1.5)<br>per 100 gal. | For celery seedbeds, apply in a spray volume of 125 gallons per acre twice weekly or as needed to maintain control. Start applications shortly after crop emergence. Use the higher rate under severe disease conditions.  |

**Specific Use Restrictions:**

- Do not apply more than 34.5 pints of Initiate Zn (18 lbs. a.i.) per acre during each growing season.
- Do not apply within 7 days of harvest.



| CROP  | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i./A)     | APPLICATION DIRECTIONS  |
|---|---|--------------------------------|---|
| <b>Corn</b><br>(Sweet),<br><b>Corn</b><br>(Grown for<br>seed) | Helminthosporium<br>leaf blights<br><br>Rust<br>( <i>Puccinia</i> spp.) | 1 1/8 to 2 3/4<br>(0.6 to 1.5) | Use in sufficient water to obtain adequate coverage. Begin applications when conditions favor disease development and repeat at a 7 day interval as required to maintain control (the minimum re-treatment interval is 7 days). Under severe disease conditions, use 2% to 2% pints Initiate Zn per acre.<br><br>Apply by ground, air or chemigation. |

**Specific Use Restrictions:**

- Do not apply more than 17 pints of Initiate Zn (9 lbs. a.i.) per acre during each growing season.
- Do not apply within 14 days of harvest.
- Do not apply to sweet corn to be processed.
- Do not allow livestock to graze in treated fields.
- Do not ensile treated corn or use as livestock forage.

| CROP             | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i./A)     | APPLICATION DIRECTIONS  |
|------------------|---|--------------------------------|---|
| <b>Cranberry</b> | Fruit rots<br><br>Lophodermium<br>leaf/twig blight<br>( <i>L. hypophyllum</i> ) | 5 3/4 to 9 1/4<br>(3.0 to 4.9) | Apply at early bloom and repeat at 10 to 14 day intervals (the minimum re-treatment interval is 10 days). Under severe disease conditions, use the 9% pints per acre rate on a 10 day schedule.<br><br>Apply by ground, air or chemigation. When applying by chemigation, use 300 gallons of water per acre through solid set systems only. |
|                  | Upright Dieback<br>( <i>Phomopsis<br/>vaccinii</i> )                            | 5 3/4 to 9 1/4<br>(3.0 to 4.9) | Apply in sufficient water to obtain coverage of uprights and runners. Make the first application before bloom, at the time shoots begin growth in the spring. Make additional applications at 10 to 14 day intervals.   |

|  |  |  |  |
|--|--|--|--|
|  |  |  | Apply by ground, air or chemigation. When applying by chemigation, use 300 gallons of water per acre through solid set systems only. |
|--|--|--|--|

**Specific Use Restrictions:**

- Do not apply more than 29 pints of Initiate Zn (15lbs. a.i.) per acre during each growing season.
- Do not apply within 50 days of harvest.
- Do not apply to beds when flooded or allow release of irrigation water from beds for at least 3 days following application.

| CROP  | DISEASES (Pathogen)  | Product/A (lbs. a.i./A) | APPLICATION DIRECTIONS   |
|---|--|-------------------------|--|
| Cucurbits<br>Cantaloupe<br>Cucumber<br>Honeydew melon<br>Muskmelon<br>Pumpkin<br>Squash<br>Watermelon | Anthracnose ( <i>Colletotrichum</i> spp.)                    | 2¼ to 2¾ (1.125 to 1.5) | Use in sufficient water to obtain adequate coverage. Begin applications when plants are in first true leaf stage or when conditions are favorable for disease development. Repeat applications at 7 day intervals (the minimum re-treatment interval is 7 days).   |
|   | Downy mildew ( <i>Pseudoperonospora cubensis</i> )           |                         |  |
|   | Target spot ( <i>Corynespora cassiicola</i> )                | 2¾ to 4¼ (1.5 to 2.25)  | <p>Note: Spraying mature watermelons may result in sunburn of the upper surface of the fruit. Do not apply Initiate Zn to watermelons when any of the following conditions are present:</p> <ol style="list-style-type: none"> <li>1. Intense heat and sunlight</li> <li>2. Drought conditions</li> <li>3. Poor vine canopy</li> <li>4. Other crop and environmental conditions which may be conducive to increased natural sunburn</li> </ol> <p>Do not combine Initiate Zn with anything except water for application to watermelons unless your prior use has shown the combination to be non-injurious to watermelons under your conditions of use. Apply by ground, air or chemigation.</p> |
|   | Alternaria leaf blight ( <i>A. cucumerina</i> )              |                         |  |
|   | Alternaria leaf spot ( <i>A. alternata</i> )                 |                         |  |
|   | Cercospora leaf spot ( <i>C. cilrullina</i> )                |                         |  |
|   | Gummy stem blight/vine decline ( <i>Didymella bryoniae</i> ) |                         |  |
|   | Powdery mildew ( <i>Sphaerotheca</i> only)                   |                         |  |
|   | Scab ( <i>Cladosporium cucumerinum</i> )                     |                         |  |

**Specific Use Restrictions:**

Initiate Zn  
EPA Reg. No. 34704-XXXX  
Page 17 of 32

- Do not apply more than 30 pints of Initiate Zn (15.75 lbs. a.i.) per acre during each growing season.
- Initiate Zn may be applied the day of harvest.

| CROP                   | DISEASES (Pathogen)   | Product/A (lbs. a.i./A)  | APPLICATION DIRECTIONS  |
|------------------------|---|--------------------------|---|
| Grasses Grown for Seed | Bipolaris and Drechslera leaf spots   | 1½ to 2¼ (0.75 to 1.125) | Use in sufficient water to obtain adequate coverage. Begin applications during stem elongation when conditions favor disease development. Re-apply at flag (top) leaf emergence and repeat applications at 14 day intervals (the minimum re-treatment interval is 14 days).<br><br>Apply by ground, air or chemigation. |
|                        | Glume blotch<br>Leaf rust<br>Septaria leaf spot<br>Stem rust<br>Stripe rust |                          |   |
|                        | Selenophoma (eyespot)   | 1½ to 2¾ (0.75 to 1.5)   |   |

**Specific Use Restrictions:**

- Do not apply more than 8.5 pints of Initiate Zn (4.5 lbs. a.i.) per acre during each growing season.
- Do not apply within 14 days of harvest.
- Do not allow livestock to graze in treated areas or feed hay produced before harvest. Feeding of treated plant parts after harvest of seed is allowed.

| CROP  | DISEASES (Pathogen)                       | Product/A (lbs. a.i./A) | APPLICATION DIRECTIONS   |
|-------|---|-------------------------|--|
| Mango | Anthracoese ( <i>Colletotrichum</i> spp.) | 2¾ to 5 (1.5 to 2.6)    | Use a water volume of 20 to 300 gallons per acre. Begin applications at early bloom and repeat on a 7-14 day interval until early fruit development Begin the season with the 2¾ pint rate on a 14-day interval (the minimum re-treatment interval is 7 days). If disease pressure is severe, use the higher rate and shorter interval.<br><br>Apply by ground or air. |

**Specific Use Restrictions:**

- Do not apply more than 46 pints of Initiate Zn (24 lbs. a.i.) per acre during each growing season.
- Do not apply within 21 days of harvest.

| CROP | DISEASES (Pathogen)  | Product/A (lbs. a.i./A) | APPLICATION DIRECTIONS  |
|------|--|-------------------------|---|
| Mint | Rust ( <i>Puccinia menthae</i> )<br><br>Septoria leaf spot ( <i>S. menthae</i> ) | 2 (1.0)                 | Use in sufficient water to obtain adequate coverage, normally 20 to 150 gallons per acre for dilute sprays and 5 to 10 gallons per acre for concentrate ground and aircraft applications. Begin applications when emerging plants are 4-8 inches high. Repeat applications at 7 to 10 day intervals to maintain control (the minimum retreatment interval is 7 days). |

**Specific Use Restrictions:**

- Do not apply more than 5¾ pints of Initiate Zn (3 lbs. a.i.) per acre during each growing season.
- Do not apply within 80 days of harvest. Do not feed fresh or extracted mint hay from treated fields to livestock.

| CROP                       | DISEASES (Pathogen)   | Product/A (lbs. a.i./A) | APPLICATION DIRECTIONS   |   |   |                     |
|----------------------------|---|-------------------------|--|---|---|---------------------|
| Onion (Dry bulb)<br>Garlic | Botrytis leaf blight (Botrytis spp.)<br><br>Purple blotch ( <i>Alternaria pom</i> )<br><br><b>Suppression:</b><br>Botrytis neck rot<br><br>Downy mildew ( <i>Peronospora destructor</i> ) | 1½ to 4¼ (0.75 to 2.25) | Apply in sufficient water to obtain thorough coverage of tops. Initiate Zn is recommended for use with disease monitoring systems which adjust fungicide rates and frequency of application according to disease hazard. Apply as follows: |   |   |                     |
|                            |   |                         |  | Low Disease Hazard & Prior to Infection | Low Disease Hazard & Some Disease Present | High Disease Hazard |
|                            |   |                         | Rate per acre  | 1 ½ pt.                                 | 2 pts.                                    | 4 ¼ pts.            |
|                            |   |                         | Frequency  | 10 days                                 | 7 to 10 days                              | 7 days              |

|  |  |  |  |
|--|--|--|--|
|  |  |  | <p>For suppression of neck rot (<i>Botrytis</i> spp.) during storage, a minimum of three weekly applications prior to lifting, using 2 to 4¼ pints of Initiate Zn per acre is recommended.</p> <p>The minimum re-treatment interval is 7 days.</p> <p>Apply by ground, air or chemigation.</p> |
|--|--|--|--|

**Specific Use Restrictions:**

- Do not apply more than 29 pints of Initiate Zn (15 lbs. a.i.) per acre during each growing season.
- Do not apply within 7 days of harvest on garlic.
- Do not apply within 14 days of harvest on green bunching onions, leeks or shallots.

| CROP  | DISEASES<br>(Pathogen)   | Product/A<br>(lbs. a.i./A)  | APPLICATION DIRECTIONS  |
|---|--|-----------------------------|---|
| <b>Onion</b><br>(green bunching)<br><b>Leek</b><br><b>Shallots</b><br><b>Onion and Garlic</b><br>(grown for seed) | Botrytis leaf blight<br>( <i>Botrytis</i> spp.)<br><br>Purple blotch<br>( <i>Alternaria pom</i> )<br><br>Suppression:<br>Downy mildew<br>( <i>Peronospora destructor</i> ) | 2¼ to 4¼<br>(1.125 to 2.25) | Use in sufficient water to obtain thorough coverage of tops. Begin applications prior to favorable infection periods, and repeat at 7 to 10 day intervals for as long as conditions favor disease (the minimum re-treatment interval is 7 days). Use the high rate and a 7 day schedule of applications when heavy dew or rain persist.<br><br>Apply by ground, air or chemigation. |

**Specific Use Restrictions:**

- Do not apply more than 13 pints of Initiate Zn (6.75 lbs. a.i.) per acre during each growing season.
- Do not apply within 7 days of harvest on garlic.
- Do not apply within 14 days of harvest on green bunching onions, leeks or shallots.

| CROP          | DISEASES<br>(Pathogen)   | Product/A<br>(lbs. a.i./A)  | APPLICATION DIRECTIONS  |
|---------------|--|-----------------------------|---|
| <b>Papaya</b> | Alternaria fruit spot<br>( <i>A. alternata</i> )<br><br>Anthracnose<br>( <i>Colletotrichum</i> spp.) | 2¼ to 4¼<br>(1.125 to 2.25) | Apply with ground equipment only, in sufficient water to obtain adequate coverage of fruit and leaves. Begin treatment when conditions favor development of disease and continue treatments at 14 day intervals until weather conditions no longer favor disease development (the minimum re- |

|  |   |  |                                 |
|--|---|--|---------------------------------|
|  | Stem end rot<br>( <i>A. alternata</i> ,<br><i>Colletotrichum</i><br>spp.) |  | treatment interval is 14 days). |
|--|---|--|---------------------------------|

**Specific Use Restrictions:**

- Do not apply more than 13 pints of Initiate Zn (6.75 lbs. a.i.) per acre during each growing season.
- Initiate Zn may be applied the day of harvest.

| CROP           | DISEASES<br>(Pathogen)                               | Product/A<br>(lbs. a.i./A)    | APPLICATION DIRECTIONS  |
|----------------|--|-------------------------------|---|
| <b>Parsnip</b> | Alternaria leaf spot<br>( <i>Alternaria</i> spp.)    | 2¼ to 2¾<br>(1.125 to<br>1.5) | Apply in sufficient water to obtain adequate coverage. Make the first application at the first sign of disease or when conditions are favorable for infection. Continue applications on a 7 to 10 day schedule (the minimum re-treatment interval is 7 days).<br><br>Apply by ground, air or chemigation. |
|                | Anthracnose<br>( <i>Colletotrichum</i> spp.)         |                               |   |
|                | Botrytis blight (gray mold)<br>( <i>B. cinerea</i> ) |                               |   |
|                | Bottom rot<br>( <i>Rhizoctonia</i> )                 |                               |   |
|                | Downy mildew<br>( <i>Plasmopara crustosa</i> )       |                               |   |

**Specific Use Restrictions:**

- Do not apply more than 11.5 pints of Initiate Zn (6 lbs. a.i.) per acre during each growing season.
- Do not apply within 10 days of harvest.

| CROP                 | DISEASES<br>(Pathogen)                                   | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS  |
|----------------------|--|----------------------------|---|
| <b>Passion Fruit</b> | Alternaria fruit and leaf spot ( <i>Alternaria</i> spp.) | 2¾<br>(1.5)                | Apply with ground equipment in sufficient water to obtain adequate coverage of fruit and leaves. Begin applications during late bloom and repeat at 14 day intervals until weather conditions no longer favor disease development (the minimum re-treatment interval is 14 days). |
|                      | Anthracnose<br>( <i>Colletotrichum</i> spp.)             |                            |   |
|                      | Cercospora fruit spot                                    |                            |   |

**Specific Use Restrictions:**

- Do not apply more than 14.5 pints of Initiate Zn (7.5 lbs. a.i.) per acre during each growing season.

- Do not apply within 7 days of harvest.

| CROP   | DISEASES (Pathogen)                                    | Product/A (lbs. a.i./A)     | APPLICATION DIRECTIONS  |
|--------|--|-----------------------------|---|
| Peanut | Early leaf spot<br>( <i>Cercospora arachidicola</i> )  | 1½ to 2¼<br>(0.75 to 1.125) | Apply in sufficient water for coverage when leaf wetness first occurs or 30 to 40 days after planting; repeat at 14 day intervals (the minimum re-treatment interval is 14 days). When conditions favor late leaf spot or when rust or web blotch occur, apply 2¼ pints Initiate Zn per acre at 14 day intervals for the remainder of the season. |
|        | Late leaf spot<br>( <i>Cercosporidium personatum</i> ) |                             |   |
|        | Pepper spot<br>( <i>Leptosphaerulina crassiasca</i> )  |                             |   |
|        | Rust<br>( <i>Puccinia arachidis</i> )                  | 2¼<br>(1.125)               | Apply by ground, air, or chemigation. If applying by chemigation, use 2¼ pints Initiate Zn per acre. It is recommended to alternate chemigation applications with ground or aerial applications.  |
|        | Web blotch<br>( <i>Phoma arachidicola</i> )            |                             |   |

**Specific Use Restrictions:**

Do not apply more than 17 pints of Initiate Zn (9 lbs. a.i.) per acre during each growing season.

- Do not apply within 14 days of harvest.
- Do not allow livestock to graze in treated areas.
- Do not feed hay or threshings from treated fields to livestock.

| CROP   | DISEASES (Pathogen)                              | Product/A (lbs. a.i./A)     | APPLICATION DIRECTIONS  |
|--------|--|-----------------------------|---|
| Potato | Black dot<br>( <i>Colletotrichum coccodes</i> )  | 1 1/8<br>(0.6)              | Begin applications at the low rate when vines are first exposed and leaf wetness occurs. Repeat applications at 5 to 10 day intervals (the minimum re-treatment interval is 5 days).  |
|        | Botrytis vine rot ( <i>B. cinerea</i> )          | -then-                      |   |
|        | Early blight<br>( <i>Alternaria salam</i> )      | 1½ to 2¼<br>(0.75 to 1.125) | Begin applying the higher label rates at 5 to 10 day intervals when anyone of the following events occur: <ul style="list-style-type: none"> <li>• Vines close within the rows</li> <li>• Late blight forecasting measures 18 disease severity values (DSV)</li> <li>• The crop reaches 300 P-days</li> </ul> |
|        | Late blight<br>( <i>Phytophthora infestans</i> ) |                             |   |

|  |  |  |   |
|--|--|--|---|
|  |  |  | <p>Increase water spray volume as canopy density increases. Use the highest rate and shortest interval when plants are rapidly growing and disease conditions are severe.</p> <p>Apply by ground, air, or chemigation. Do not exceed a 10 day interval between applications when using chemigation.</p> |
|--|--|--|---|

**Specific Use Restrictions:**

Do not apply more than 21.5 pints of Initiate Zn (11.25 lbs. a.i.) per acre during each growing season.

- Do not apply within 7 days of harvest.

| CROP   | DISEASES<br>(Pathogen)                                  | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS  |
|--|---|----------------------------|---|
| <b>Soybean</b>   | Anthracnose<br>( <i>Colletotrichum truncatum</i> )      |                            | Apply in sufficient water to obtain complete coverage, using at least five gallons of water per acre for aerial application. Use the three application program in areas having a history of moderate to severe disease intensity. The minimum re-treatment interval is 14 days. Apply by ground, air, or chemigation. |
|  | Cercospora leaf blight<br>( <i>C. kikuchii</i> )        |                            |   |
|  | Diaporthe pod and stem rot<br>( <i>D. phaseolorum</i> ) | 2¼ to 3¼<br>(1.125 to 1.7) | Two application program: For determinate varieties, make the first application at R3 stage (early pod set) and the second application at R5 (seed formation). For indeterminate varieties, make the first application when largest pods are 1 – 1¼ inches in length. Make the second application 14 days later.       |
|  | Frogeye leafspot<br>( <i>Cercospora sojina</i> )        |                            |   |
|  | Purple seed stain<br>( <i>C. kikuchii</i> )             |                            |   |
|  | Septoria brown spot<br>( <i>S. glycines</i> )           | 1½ to 2¾<br>(0.75 to 1.5)  | Three application program: For determinate varieties, make the first application at the beginning of flowering (R1), the second at early pod set (R3), and the third at beginning of seed formation (R5). For indeterminate varieties, make the first application one week after                                      |
| Suppression:<br>Rust<br>( <i>Phakopsora pachyrhizi</i> ) |   |                            |   |



|  |   |              |   |
|--|---|--------------|---|
|  |   |              | first flowering and continue applications at 14 day intervals.  |
|  | Stem canker<br>( <i>Diaporthe phaseolorum</i> ) | 1½<br>(0.75) | Apply in 10 to 20 gallons of water per acre, as a band treatment directing spray to provide coverage of entire plant. Make the first application at time of emergence of the second trifoliolate leaves (V2). If conditions favor stem canker disease make a second and third application. Make all applications at 14 day intervals. |

**Specific Use Restrictions:**

- Do not apply more than 8.5 pints of Initiate Zn (4.5 lbs. a.i.) per acre during each growing season.
- Do not apply within 6 weeks of harvest. .
- Do not feed hay or threshings from treated fields to livestock.

| CROP   | DISEASES<br>(Pathogen)   | Product/A<br>(lbs. a.i./A) | APPLICATION DIRECTIONS   |
|--------|--|----------------------------|--|
| Tomato | <b>FOLIAGE:</b><br>Early blight<br>( <i>Alternaria solani</i> )<br><br>Gray leaf mold<br>( <i>Fluvia fluva</i> ;<br><i>Cladosporium</i> )<br><br>Gray leaf spot<br>( <i>Stemphyllium botryosum</i> )<br><br>Late blight<br>( <i>Phytophthora infestans</i> )<br><br>Septaria leaf spot<br>( <i>S. lycopersici</i> )<br><br>Target spot<br>( <i>Corynespora cassicola</i> ) | 2 to 2¾<br>(1.0 to 1.5)    | Apply in sufficient water to obtain adequate coverage. Begin applications when dew or rain occur and disease threatens. Apply on a 7 to 10 day interval for foliage diseases. For fruit diseases, begin at fruit set and apply on a 7 to 14 day interval. Use the highest rate and shortest interval specified when disease conditions are severe. The minimum re-treatment interval is 7 days.<br><br>Apply by ground, air, or chemigation. |

|  |   |                         |  |
|--|---|-------------------------|--|
|  | <b>FRUIT:</b><br>Alternaria fruit rot<br>(black mold)<br><i>(A. alternata)</i><br><br>Anthracnose<br><i>(Colletotrichum spp.)</i><br><br>Botrytis gray mold<br><i>(B. cinerea)</i><br><br>Late blight fruit rot<br><i>(P. infestans)</i><br><br>Rhizoctonia fruit rot<br><i>(R. Solani)</i> | 2¾ to 4<br>(1.5 to 2.1) |  |
|--|---|-------------------------|--|

**Specific Use Restrictions:**

- Do not apply more than 28.5 pints of Initiate Zn (15 lbs. a.i.) per acre during each growing season.
- Initiate Zn may be applied the day of harvest.

**Tree and Orchard Crops**

Apply Initiate Zn in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. For fruit and nut bearing crops, the maximum volume is 300 gallons per acre unless indicated otherwise in the specific use directions. For conifers, the maximum volume is 100 gallons per acre.

Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, Initiate Zn may be applied with aircraft using at least 20 gallons of spray per acre. The minimum volume for application by aircraft to forest stands and Christmas trees is 10 gallons per acre.

When concentrate sprays are used or when treating non-bearing or immature trees, the lower rate of Initiate ZN listed may be used. Do not allow livestock to graze in treated areas.

| CROP    | DISEASES<br>(Pathogen)                                 | Product/A<br>(lbs. a.i. per) |             | APPLICATION DIRECTIONS   |
|---------|--|------------------------------|-------------|--|
|         |  | Acre                         | 100<br>gal* |  |
| Almonds | Blossom<br>blight/brown rot<br><i>(Monilinia spp.)</i> | 5 ¾<br>(3.0)                 | 2<br>(1.0)  | Use water volumes of 20-300 gallons per acre. For blossom blight, begin application at popcorn (pink bud) and follow with an application at full bloom. If |
|         | Scab   |                              |             |  |

|  |   |  |  |  |
|--|---|--|--|--|
|  | <p><i>(Venturia carpophila)</i></p> <p>Shothole<br/><i>(Wilsonomyces carpophilus)</i></p> |  |  | <p>weather is still conducive for disease development, another application may be made at petal fall.</p> <p>For control of shothole, make an application in the autumn at leaf fall. In the spring, make the first application at budbreak, followed by an application at shuck split to control nut infections and to control scab.</p> <p>Apply by ground or air.</p> |
|--|---|--|--|--|

**Specific Use Restrictions:**

Do not apply more than 36 pints of Initiate Zn (18.75lbs. a.i.) per acre during each growing season (leaf fall through shuck split).

- Do not apply within 150 days of harvest.

| CROP                           | DISEASES<br>(Pathogen)                                 | Product/A<br>(lbs. a.i. per) |            | APPLICATION DIRECTIONS  |
|--------------------------------|--|------------------------------|------------|---|
|                                |  | Acre                         | 100 gal*   |   |
| <b>Filberts</b><br>(Hazelnuts) | Eastern filbert blight<br><i>(Anisogramma anomala)</i> | 5¾<br>(3.0)                  | 2<br>(1.0) | Use a water volume of 20 to 300 gallons per acre. Begin applications at the onset of disease or when weather conditions favor disease development. Make applications on a 14-28 day schedule, using the shorter interval under heavy disease pressure (the minimum re-treatment interval is 14 days). |

**Specific Use Restrictions:**

- Do not apply more than 17 pints of Initiate Zn (9lbs. a.i.) per acre during each growing season.
- Do not apply within 120 days of harvest.
- Do not apply through irrigation.
- Do not apply with oils, other pesticides, surfactants or fertilizers.
- Do not apply within one week of an oil-based pesticide application.

| CROP   | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i. per) |                             | APPLICATION DIRECTIONS   |
|--|---|------------------------------|-----------------------------|--|
|  |   | Acre                         | 100 gal*                    |  |
| <b>Peach</b><br><b>Nectarine</b><br><b>Apricot</b><br><b>Cherry</b><br><b>Plum</b><br><b>Prune</b> | Leaf curl<br><i>(Taphrina deformans)</i><br><br>Shot hole<br><i>(Wilsonomyces carpophilus)</i>  | 4½ to 6<br>(2.3 to<br>3.1)   | 1½ to 2<br>(0.75 to<br>1.0) | <p>For best control of both diseases, apply at leaf fall in late autumn, using sufficient water and proper sprayer calibration to obtain uniform coverage. When conditions favor high disease levels, use the high rate of application and apply once or twice more in mid to late winter before budswell. If the leaf fall application is not practical, application of Initiate Zn for control of leaf curl may be made at any time prior to budswell the following spring. Where shothole occurs, also apply at bud break to protect newly emerging leaves and at shuck split to prevent fruit infections.</p> <p>Apply by ground or air.</p> |
|  | Brown rot blossom blight<br><i>Monilinia</i> spp.<br><br>Lacy (russet) scab<br>(plum/prune)   | 4½ to 6<br>(2.3 to<br>3.1)   | 1½ to 2<br>(0.75 to<br>1.0) | <p>Make one application at popcorn (pink, red, or early white bud) and a second application at full bloom. If weather conditions favor disease development, make an additional application at petal fall.</p>  |
|  | Black knot (cherry, plum)<br><i>(Apiosporina morbosa)</i><br><br>Cherry leaf spot<br><i>(Blumeriella jaapii)</i><br><br>Scab<br><i>(Cladosporium carpophilum)</i> | 4½ to 6<br>(2.3 to<br>3.1)   | 1½ to 2<br>(0.75 to<br>1.0) | <p>In addition to the bloom application listed above, make one application at shuck split. Do not apply Initiate Zn after shuck split and before harvest. If additional disease control is needed before harvest, use another registered fungicide. For control of cherry leaf spot after harvest, make one application to foliage within 7 days after fruit is removed. In</p>  |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  | <p>orchards with a history of high leaf spot incidence, make a second application 10-14 days later.</p> <p>Apply by ground or air.</p> |
|--|--|--|--|--|

**Specific Use Restrictions:**

- Do not apply more than 29.5 pints of Initiate Zn (15.5 lbs. a.i.) per acre during each growing season.
- Initiate Zn may be applied the day of harvest.
- The minimum re-treatment interval is 10 days.

| CROP      | DISEASES<br>(Pathogen)   | Product/A<br>(lbs. a.i. per) |                           | APPLICATION DIRECTIONS  |
|-----------|--|------------------------------|---------------------------|---|
|           |  | Acre                         | 100 gal*                  |   |
| Pistachio | Botryosphaeria blight<br>( <i>B. dothidea</i> )<br><br><b>Suppression:</b><br>Alternaria late blight ( <i>A. alternata</i> ) | 8½<br>(4.5)                  | 4¼<br>(2.25)              | Use a water volume of 20 to 200 gallons per acre. Make the first application at the beginning of the blossom period followed by an application at full bloom. Make additional applications as required on a 28-day schedule. (The minimum re-treatment interval is 28 days). For Septoria and Botrytis, use the higher rate if disease pressure is severe.<br><br>NOTE: Use of the product may result in speckling or reddening of the fruit hull (epicarp). This effect is superficial and has not resulted in any change in nut quality.<br><br>Apply by ground or air. |
|           | Botrytis blight<br>( <i>B. cinerea</i> )<br><br>Septaria leaf spot<br>( <i>S. pistacina</i> )                                | 5¾ to 8½<br>(3.0 to 4.5)     | 2¾ to 4¼<br>(1.5 to 2.25) |   |

**Specific Use Restrictions:**

- Do not apply more than 43 pints of Initiate Zn (22.5lbs. a.i.) per acre during each growing season.
- Do not apply within 14 days of harvest.

Initiate Zn  
EPA Reg. No. 34704-XXXX  
Page 28 of 32

| CROP                            | DISEASES<br>(Pathogen)  | Product/A<br>(lbs. a.i. per) |                             | APPLICATION<br>DIRECTIONS  |
|---------------------------------|---|------------------------------|-----------------------------|--|
|                                 |   | Acre                         | 100 gal*                    |  |
| Conifers<br>(pines,<br>spruces) | Swiss<br>needlecast<br>( <i>Phaeocryptopus<br/>gaeumannii</i> )             | 4 to 8<br>(2.1 to 4.125)     | 4 to 8<br>(2.1 to 4.125)    | Single<br>application<br>technique: In<br>Christmas tree<br>plantations or<br>forest stands,<br>make one<br>application in the<br>spring when new<br>shoot growth is<br>½ to 2 inches in<br>length.  |
|                                 | Scleroderris<br>canker (pines)<br>( <i>Gremmeniella<br/>abietina</i> )      | 2¼ to 4<br>(1.125 to 2.1)    | 2¼ to 4<br>(1.125 to 2.1)   |  |
|                                 | Swiss<br>needlecast<br>( <i>P. gaeumannii</i> )                             |                              |                             | Make the first<br>application in<br>spring when new<br>shoot growth is<br>½ to 2 inches in<br>length. Make<br>additional<br>applications at 3<br>to 4 week<br>intervals until<br>conditions no<br>longer favor<br>disease<br>development. For<br>use in nursery<br>beds, Apply the<br>highest rate<br>specified on a 3<br>week schedule. |
|                                 | Sirococcus tip<br>blight<br>( <i>S. conigenus</i> )                         | 2¾ to 5<br>(1.5 to 2.6)      | 2¾ to 5<br>(1.5 to 2.6)     |  |
|                                 | Rhizosphaera<br>needlecast<br>(spruces)<br>( <i>Rhizosphaera<br/>spp.</i> ) | 8<br>(4.125)                 | 8<br>(4.125)                |  |
|                                 | Scirrhia brown<br>spot (pines)<br>( <i>Mycosphaerella<br/>dearnessii</i> )  |                              |                             |  |
|                                 | Cyclaneusma<br>and<br>Lophodermium<br>needlecasts<br>(pines)                | 4 to 8<br>(2.1 to<br>4.125)  | 4 to 8<br>(2.1 to<br>4.125) | Apply in early<br>spring prior to<br>bud break.<br>Repeat<br>applications at<br>approximately 6<br>to 8 week<br>intervals, until<br>spore release<br>ceases in late<br>fall. Apply   |

Initiate Zn  
EPA Reg. No. 34704-XXXX  
Page 29 of 32

|  |   |                        |                        |   |
|--|---|------------------------|------------------------|---|
|  |   |                        |                        | monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific Northwest). During drought periods, applications may be suspended, then resumed upon next occurrence of needle wetness.   |
|  | Rhabdocline needlecast (Douglas-fir)          | 2¼ to 4 (1.125 to 2.1) | 2¼ to 4 (1.125 to 2.1) | Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule. |
|  | Botrytis seedling Blight<br>Phoma twig blight | 2½ to 4 (1.125 to 2.1) | 2½ to 4 (1.125 to 2.1) | Begin applications in nursery beds when seedlings are 4 inches tall   |

|  |  |           |           |   |
|--|--|-----------|-----------|---|
|  |  |           |           | and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as disease favorable conditions persist. |
|  | Autoecious needle rust (Weir's cushion) (spruce) | 8 (4.125) | 8 (4.125) | Begin applications when 10% of buds have broken and twice thereafter at 7-10 day intervals.   |

**Specific Use Restrictions:**

- Do not apply more than 31.5 pints of Initiate Zn (16.5 lbs. a.i.) per acre during each growing season.
- The minimum re-treatment interval for established trees is 21 days.
- The minimum re-treatment interval in nursery beds is 7 days.

Volumetric rates to be used only with full dilute spray volume specified on this label for tree and orchard crops.

**MUSHROOMS:** Verticillium brown spot and dry bubble - Apply 4 to 8 fl. oz. of Initiate Zn per 1,000 sq. ft. of mushroom bed. Apply as a drench to the mushroom bed surface in at least 12.5 gallons of water per 1,000 sq. ft. of mushroom bed. Make two applications. Apply the high rate (8 fl. oz.) of Initiate Zn in the first application and the low rate (4 fl. oz.) of Initiate Zn in the second application. The first application should be made within two days of top-dressing the spawn-colonized mushroom compost with a casing layer. The second application should be made at pinning. Do not apply within 5 days of first harvest. Make no more than two applications per cropping cycle. Do not apply more than 12 fl. oz. of Initiate Zn per cropping cycle.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**PESTICIDE STORAGE:** Store in a cool place. Protect from excessive heat.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray 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.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**For packages up to 5 gallons: 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. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: 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. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** 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 refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

Initiate Zn  
EPA Reg. No. 34704-XXXX  
Page 32 of 32

34  
34

FORMULATED FOR



P.O. BOX 1286, GREELEY, COLORADO 80632-1286