34704-769

04-30-2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

CERTIFIED MAIL

APR 30 2010

John Tice
Loveland Products Inc.
PO Box 1286
Greeley, CO 80632-1286

Subject: Nemasol 42%
EPA Reg. No. 34704-769
RED Mitigation Amendment dated November 24, 2009
EPA Decision Number D432148

Dear Mr. Tice:

The amended label referred to above, submitted in connection with reregistration of metam-sodium under the Federal Insecticide, Fungicide and Rodenticide Act as amended is acceptable provided the following label revisions are made and the following conditions are met:

LABEL REVISIONS

1. Page 1
   a. Add the phrase "in this label" at the end of the following sentence: A soil fumigant solution for specific crops as listed
      - In that same sentence, remove the following "that attack ornamentals, food and fiber crops."

2. Page 2
   a. In the sentence beginning with, "All other handlers," add the following before the parenthesis, "including handlers operating motorized ground equipment with closed cabs"
      - remove the word "fumigant" from this sentence
   b. In the bullet under Personal Protective Equipment for Respiratory Protection that specifies "a respirator with a canister approved for pesticides," please specify *"or canister with any N, R, P or HE prefilter."*
   c. The Respiratory Availability section should be under the Protection for Handlers section

3. Page 3
    a. The Respirator Fit Testing, Medical Qualification, and Training, and the third paragraph under User Safety Requirements should be under the Protection for Handlers Section
    b. In the Respirator Fit Testing, Medical Qualification, and Training section, change the word "ensure" to "verify"
    c. In the Respirator Fit Testing, Medical Qualification, and Training section, add the following sentence to the end of the last bullet: *"Upon request by local/state/federal/tribal enforcement personnel, employers must provide documentation how they have complied with those these requirements."*
    d. In the User Safety Requirements section, add the following, "DO NOT transport contaminated clothing inside a closed vehicle. Store in a sealed container and wash or dispose as specified."
    e. Move the third paragraph in the User Safety Requirement section (regarding PPE) to page 6 of the label, directly above the Respiratory Protection and Stop Work Triggers section.
    f. In the Environmental Hazards section, the sentence beginning, "Metam sodium and metam potassium have certain properties…" – the words metam potassium should be removed.

4. Page 4
    a. After the first paragraph on page 4, add the following sentence: Do not apply this product through any irrigation system unless the chemigation instructions on this label are followed.
    b. Add the following sentences above the California Only language: "Do not apply when conditions favor drift from adjacent treated areas. Do not use in a greenhouse or any other enclosed structure or confined area."
    c. Include the rate in gallons in the Maximum Application Rate section
    d. Replace the Plant Back Restriction Section with the crop list attached at the back of these comments.

5. Page 5
    a. Remove the following text under the Supervision of Handlers section in sixth paragraph : *[the registrant provided]* and revise this paragraph to the following: "The certified applicator must provide Fumigant Safe Handling information to each handler involved in the application or confirm that each handler participating in the application has received Fumigant Safe Handling information in a manner they can understand within the past twelve months. Fumigant Safe Handling information will be provided where this product is purchased or at www.epa.gov/fumiganttraining."
    b. Remove the following portion of the text in the parentheses:

"and not separated by a 12-hour interruption."

This should also be removed from the last paragraph in the Notification section (page 7).

c. In the first paragraph, after the sentence ending with the words, "from the start of application until the entry restricted period ends," add the following:

(NOTE: persons installing, perforating, removing, repairing, and monitoring tarps are considered handlers for the durations listed below).

d. Move all text from the paragraph beginning on page 5 with "The certified applicator must provide Fumigant Safe Handling..." ending on page 6 before the paragraph beginning with "The certified applicator supervising the application and the owner/operator...."

6. Page 6

a. At the end of the Protection for Handlers section add the following sentence: *"Cartridges or canisters must be replaced when odor or irritation from this product becomes apparent, if the measured concentration of metam sodium is greater than 6000 ppb, or after 8 hours of use, whichever occurs first."*

b. In the second bullet in the Respiratory Protection and Stop Work Triggers section, remove the following sentence: "During the collection of air samples, an air-purifying respirator must be worn by the handler taking the air samples." (leave this sentence in the sub-bullet under this bullet).

c. Move what is currently the fourth bullet ("When breathing zone samples are required....") below what is currently the fifth bullet ("When respirators are required..").

d. The last main bullet in the Respiratory and Stop Work Triggers section, add the word "all" as shown in the following: "Work activities can resume if all the following conditions exist provided that the appropriate air-purifying respirator is worn."

7. Page 7

a. In the second bullet of the Entry-Restricted Period section, before the comma and word "or," add the following:

(Note: persons installing, repairing, or monitoring tarps are handlers until 14 days after the application is complete if tarps are not perforated and removed during those 14 days)

b. In the NOTE section of the Entry-Restricted Period section, change "Tarp Perforation and Removal" to "Tarp Perforation and/or Removal"

c. Under *Notification Requirement*, place quotes around the language in each of the first three bullets
   - Remove the words "or metam potassium" from the third bullet.
   - Remove the words "Brand name of this product" in the sixth bullet, and replace with "Nemasol 42%"

d. remove the additional page number at the bottom right of the page

8. Pages 7 – 22 (GAPs)
   a. The word "must" must be italicized in the wind speed and weather conditions section of all application methods.
   b. In all application methods, the inversion language must be changed to the following: "Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov or by contacting your local National Weather Service Forecasting Office."
   c. In the last paragraph of the soil moisture sections, remove the words "pretreatment or treatment"
   d. In the Soil Moisture section of all application methods
      - include "(field capacity)" following the term "soil capacity" throughout label
      - change the word "at" to "between" in the phrase "top six inches **between** 60% to 80% soil capacity"
   e. The first bullet in the Soil Temperature sections should be revised to: "At the beginning of the application, the maximum soil temperature at the injection depth is 90 degrees F."
   f. Revise the paragraph beginning with "Spray or drip the product mixture" on page 10 to "Apply the product mixture"
   g. Page 11, 13, and 22 in the Application and Equipment Considerations sections, the following bullet must be added: "Dry connect fittings (closed transfer systems) must be installed on all tanks and transfer hoses."
   h. Bottom of page 14 and 3rd bullet on page 18, remove the words "discing or plowing" and replace with the words "prior to."
   i. Sixth bullet in the Application and Equipment Considerations on page 15, the word "galcanized" should be "galvanized."
   j. In the Wind Speed section of the Center Pivot section, replace the first two bullets with the following:

- For sprinkler or chemigation applications: 1) not using a solid stream type nozzle, OR 2) having a release height or spray height greater than 4 feet, OR 3) having 30 lbs or greater PSI at the sprinkler head, wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach 5 mph during the application and the maximum wind speed is 10 mph.
- For sprinkler or chemigation applications using: 1) a solid stream, AND 2) having release height and spray height less than 4 feet, AND 3) having 29 lbs.

or less PSI at the sprinkler head, wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach 5 mph during the application and the maximum wind speed is 25 mph.

k. In the heading for Drench on page 17, remove the words "GAPS for"
l. In the Application and Equipment Considerations sections of the Center Pivot, Solid Set Sprinkler, Drench, Drip, and Flood Basin, Furrow and Border Application sections, make the following changes:
   - Change the second bullet (except in Flood Basin, it is the fourth bullet) to "Tanks must be in good condition to ensure product does not spill or leak."
   - In the following bullet (which appears in the above sections except Flood Basin), add "inspection port" as shown: *"The system must contain a functional check valve, vacuum relief valve, inspection port, and low-pressure drain..."*
m. Add the following bullets into the Application and Equipment Considerations section on page 18:
   - Each nozzle must be equipped with a flow monitor, e.g., mechanical, electronic, or Red-ball type monitor.
   - Nozzles and metering devices are of correct size and are sealed and unobstructed.
n. remove the words "a deep" from the first bullet in the Soil Conditions section on page 17 and 21
o. first bullet on page 20 and fourth bullet on page 22, replace the words "before or during injection" with "prior to application"
p. Remove the tenth bullet under Application and Equipment Considerations on page 22.

9. Page 22 - To the text in the parentheses regarding the definition of application block, add: "or, for center pivot applications which occur over many days, the total acres of a field treated."

10. Page 23 - Revise the first bullet in the FMP section to the following: Applicator information (name, phone number, pesticide applicator license and/or certificate number, employer name, employer address).

11. Page24
    a. Top of page, remove the duplicate words "Air monitoring:"
    b. Under Good Agricultural Practices, the first bullet, remove the following: (registrants may also include optional GAPs)
    c. Following "Description of hazard communication," insert "e.g.," right inside the open parenthesis

11. Page 25
    a. Remove the first five sentences under Application Instructions and begin with the following sentence: "Soil temperature must be from 40 degrees to 90 degrees F in the treated zone.
        - Remove the following sentence: "Do not apply to soil surface, as in the sprinkler method, when air temperature is over 90 degrees F or when low humidity or high winds would cause loss of Metam Soil Fumigant before it can be drenched into the soil with additional water.
        - Remove the following: (plastic, paper, or fabric)
        - Remove the following sentence: "Keep covered for a minimum period of 48 hours."
    b. In the When to Use Maximum and Minimum Rates section, remove everything starting with the following sentence: "Metam Soil Fumigant is recommended for the suppression of the following soil-borne pests…."
    c. Move the Use Precautions section to page 3 right below Environmental Hazards.

12. Page 26
    a. Remove the Field Preparation Prior to Application bullet at the top of the page
    b. in the Target Pest and Depth of Treatment paragraph, following the sentence that describes how treatment of only the tip 2 to 4 inches of soil may be required, add the following: (see application specific requirements in the Good Agricultural Practices section of this label).
    c. In the Soil Characteristics section, remove the following sentence: "Plant materials under the soil surface (except in the case of cover crops) should be thoroughly decomposed before application).
    d. Remove the Field Preparation Prior to Application section
    e. At the end of the sentence under Application of Metam Soil Fumigant, revise by adding the word 'and' as shown in the following: "Apply according to the methods and rates outlined below and under the section MANDATORY GOOD AGRICULTURAL PRACTICES (GAPs)."

13. Page 27
    a. In the Sealing Metam Soil Fumigant in Soil section:
        - Remove the following: (plastic, paper, or fabric)
        - Replace "tarpaulins" with "tarps"
        - Remove the following sentence: "They should remain in place for at least 48 hours."
    b. Must insert the following sections from the last stamped label:
        - Statements Concerning Chemigation of Metam Soil Fumigant
        - Observe the Following Precautions if Your Chemication System is Connected to a Public Water System (stop before "The pesticide

injection pipeline must..."

14. Page 28 - Need to add the following back in the instructions for Uses, Rates, and Application Methods from the last stamped label:
    a. Soil Covering
    b. Rotary Tiller or Power Mulcher
    c. Disk Applied Method
    d. Sprinkler System
    e. Application Over Cover Crops
        - At the end of the Cover Crops section to be added back in, add the following: "The terminated crop must not be used for any food or feed purposes after Metam Soil Fumigant is applied.

15. Page 29
    a. Need to add the following back in the instructions for Field Application to Beds or Rows
    b. In the peppermint and potatoes sections, remove the last sentence
    c. In the Sprinkler System Preplant Applications section, remove the last two sentences in the first paragraph (those dealing with soil moisture and soil condition)
        - In addition, remove all of Note 1

16. Pages 30 – 33
    a. Page 30 - Replace the first two sentences in the Application Directions Nemasol 42% with: "Follow soil temperature, moisture, and conditions requirements as outline in the Good Agricultural Practices section of this label."
        - Remove the following sentence: Do not apply when wind speed favors drift beyond the area intended for treatment or when conditions of thermal inversion exist.
    b. Page 31 – change soil moisture to "60% to 80% of field capacity"
    c. Page 32 – at the end of the bullet in Special Considerations and Precautions regarding cover crops, add the following: "The terminated crop must not be used for any food or feed purposes after Metam Soil Fumigant is applied."
    d. Page 32 – check that no handheld equipment is specified in Treatment of Tree Replant Sites since prohibited
        - in the Treatment of Tree Replant Sites section, remove the last sentence
    e. Page 32 – in the Tobacco Plant Beds section, remove the following sentences:
        - "The bed should be free of clods, level, and in good tilth."
        - "Keep covered no less than one day but no more than two days."

    f. Update Storage and Disposal statements in accordance with PRN 2007-4.

CONDITIONS

1. EPA has determined that the risk mitigation measures on the revised label for this product are necessary to adequately protect human health and the environment. Therefore, pursuant to 40 CFR § 152.130(d), EPA has decided that no product bearing previously approved labeling may be sold or distributed (release for shipment) by its registrant after December 1, 2010. Wherever state approval is required for sale or distribution of this product with this new labeling, EPA strongly encourages you to submit an application to the state authority as soon as possible. You should be aware that the Agency does not intend to modify the December 1, 2010, deadline because of any failure to obtain necessary state approvals.

2. Submit one copy of the final printed label that incorporates the required changes before the product is released for shipment.

If you have any questions, please contact Shaja Joyner by phone at: 703-308-3194 or via email at: joyner.shaja@epa.gov.

Sincerely,

C L Gilespie for

Shaja B. Joyner
Product Manager (20)
Fungicide Branch
Registration Division (7504P)

Enclosure: List of Eligible Crops

Metam Sodium/Potassium List of Eligible Crops

"Only for use on the following:

Cover crops (i.e., crops planted between periods of regular crop production to prevent soil erosion);
Crops grown solely for seed;
as well as (in alphabetical order):

alfalfa; amaranth (including leafy amaranth, Chinese spinach, tampala); anise; apple (including: balsam, crabapple); apricot; artichokes; arugula (roquette); asparagus (nursery production only); barley; basil; beans (including: lima, green, fava, seed beans); beet (including garden);

berry (including black satin berry, blackberry, blueberry, boysenberry, chesterberry, lowberry, wild raspberry, youngberry, darrowberry, dewberry, cloudberry, elderberry, Cherokee blackberry, coryberry, European barberry, huckleberry, hullberry, gooseberry, cranberry, highbush cranberry, Himalayaberry, jostaberry, juneberry, saskatoon berry, lingonberry, loganberry, lavacaberry, lucretiaberry, mammoth blackberry, marionberry, bingleberry, mountain pepper berries, mulberry, olallieberry, dirksen thornless berry, nectarberry, Oregon evergreen berry, partridgeberry, phenomenalberry, rangeberry, raspberry (black and red), ravenberry, riberry, rossberry, schisandra berry, serviceberry, Shawnee blackberry, strawberry)

bok choy; broccoli; brussels sprouts; cabbage (including Napa); calabaza; calamondin; cardoon; carrot; casaba; cauliflower; celeriac; celery (including: Chinese); celtuce; chayote (fruit); che; cherry (including: sweet and tart, chokecherry, pincherry); chervil; cheyenne;
Chilean guava; Chinese greens; Chinese okra; Chinese waxgourd (Chinese preserving melon); chinquapin; chironja; chrysanthemum; cilantro; citrus citron; citrus hybrids; collard; corn salad; corn; cotton; cress (including: upland, yellow rocket, winter cress);
cucumber (including: Chinese cucumber); cucuzza; currant, (including: black, red, native and other varieties and hybrids);

dandelion; dill; dock (sorrel); eggplant; endive (escarole); fennel, Florence (finochio); forest seedlings; garland; garlic; gherkin; ginger; gourd; grape; grapefruit; hechima; herbs (all); honey balls; honeysuckle; hyotan; kale; kiwifruit (including: fuzzy and hardy); kohlrabi; kumquat; leek; lemon; lettuce (including: head and leaf); lime; loquat; mandarin (including: tangerine and satsuma); mango; mayhaw; maypop;

melon (including: bitter melon, cantaloupe, hybrids and/or cultivars, citron melon, crenshaw melon, golden pershaw melon, mango melon, honeydew melon, muskmelon, Persian melon, pineapple melon, Santa Claus melon, snake melon,
watermelon);

mint; muntries; mustard; nectarine; nursery stock (fruit seedlings and rose bushes only);
nursery tree crops (including crops like maple, ash, dogwood);

nut (including: almond, beech nut, cashew, chestnut, hickory nut, Brazil nut, macadamia nut (bush nut), filbert (hazelnut), pecan, pistachio, walnut (black and English/Persian);

onion; orach; orange (including: sour and sweet); ornamentals; parsley; peas (including: English and garden); peach; peanut; pear (including: oriental and balsam); pepper; phalsa;
plum (including: Chickasaw and Damson); plumcot; potato; prune (fresh); pummelo; pumpkin; purslane (including: garden and winter); quince;

radicchio (red chicory); radish (including Oriental); rappini; rhubarb; rye; salal; sea buckthorn; soybean; spinach (including: New Zealand, Malabar, Indian); squash, (including: summer, winter, butternut, straightneck, Acorn, crookneck, hubbard, scallop, spaghetti); sugar beet; sweet potato; swiss chard; tangelo; tangor; tobacco; tomatoes; tree nuts (orchard replant only); turf (including golf courses); turnip; vegetable marrow; wheat; yams; zucchini."

RESTRICTED USE PESTICIDE
Due to acute inhalation toxicity to humans.
For retail sale to and use by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

NEMASOL® 42%

A SOIL FUMIGANT SOLUTION FOR CROPS LISTED BELOW MAY BE APPLIED BY SOIL INJECTION OR CHEMIGATION FOR SUPPRESSION OF SOIL-BORNE PESTS THAT ATTACK ORNAMENTALS, FOOD AND FIBER CROPS.

Suppresses Weeds such as Annual Bluegrass, Bermudagrass, Chickweed, Dandelion, Ragweed, Henbit, Lambsquarter, Amaranthus species, Watergrass, Johnsongrass, Nutgrass, Wild Morningglory and Purslane, Nematodes and Symphylids. Soil-Borne diseases such as Rhizoctonia, Pythium, Phytophthora, Verticillium, Sclerotinia, Oak Root Fungus and Club Root of Crucifers.

ACTIVE INGREDIENT:	
Sodium methyldithiocarbamate (anhydrous)	**42.0%**
OTHER INGREDIENTS:	**58.0%**
TOTAL	**100.0%**

Contains 4.26 lbs. METAM SODIUM 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 the label, find someone to explain it to you in detail.)

For Emergencies call 24 hours a day: Transportation: Chemtrec – 1-800-424-9300.

FIRST AID

Immediately start the procedures below and contact a Poison Control Center, a physician or the nearest hospital. Describe the type and extent of exposure, the victim's symptoms, and follow the advice given.	
If on skin or clothing:	• Immediately flush skin with large amounts of running water for at least 15 minutes while removing contaminated clothing and shoes. • Get medical attention immediately.
If in eyes:	• Immediately flush eyes with large amounts of water for at least 15 minutes. • Hold eye lids apart to ensure rinsing of the entire surface of the eye and lids with water. • Get medical attention immediately.
If inhaled:	• Remove to fresh air. If not breathing, clear the victim's airway and start mouth to mouth artificial respiration. • If breathing is difficult, give oxygen, preferably with a physician's advice. • Get medical attention immediately.
If swallowed:	• Immediately give several glasses of water but do not induce vomiting. • If vomiting occurs, give fluids again. • Have a physician determine if condition of patient will permit induction of vomiting or evacuation of stomach. • Do not give anything by mouth to an unconscious or convulsing person.
FOR A MEDICAL EMERGENCY INVOLVING THE USE OF THIS PRODUCT CALL: 1-866-944-8565.	

EPA REG. NO. 34704-769

EPA EST. NO. 34704-MS-001

NET CONTENTS 2½ GALS. (9.46 L)

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EXP 11G09 RED

NEMASOL® 42%
EPA REG. NO. 34704-769

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER

Corrosive: Causes skin damage. May be fatal if absorbed through the skin. Do not get on skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if swallowed. Harmful if inhaled. Irritating to eyes, nose, and throat. Avoid breathing vapor or spray mist. Irritating to eyes. Do not get in eyes.

PERSONAL PROTECTIVE EQUIPMENT (PPE):
Some materials that are chemical-resistant to this product are chemical-resistant to this product are made of any water-proof material. For more options, follow the instructions for category "A" on an EPA chemical-resistance category selection chart.

Handlers applying via weed sprayer while irrigation sprinklers are running or handlers who may be exposed to liquid spray while repairing a malfunctioning chemigation system or shutting off equipment must wear:
- Chemical-resistant coveralls over long-sleeve shirt and long pants,
- Chemical-resistant gloves,
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear,
- Protective eyewear, and
- Respirator of the type specified in the respiratory protection section in the PPE requirements on this label.

Handlers wearing chemical-resistant attire are limited to 30 minutes of exposure in any 60 minute period to prevent heat illness, and, as required by the Worker Protection Standard for Agricultural Pesticides, employers of these handlers must take any necessary steps to avoid heat illness.

Except as required above, handlers transferring or loading liquid formulations, handlers operating motorized ground equipment with open cabs, handlers repairing or inactivating irrigation or chemigation equipment during application, and handlers cleaning up spills or equipment, must wear:
- Coveralls over long-sleeve shirt and long pants,
- Chemical resistant gloves,
- Chemical resistant footwear plus socks,
- Chemical-resistant apron if transferring or loading the fumigant or cleaning up spills or equipment,
- Protective eyewear, and
- Respirator of the type specified in the PPE requirements for respiratory protection section in the PPE requirements on this label if triggered.

All other handlers (except for fumigant handlers who set up and calibrate chemigation and irrigation equipment and start the application from inside the application block) as stated in this labeling must wear:
- Long-sleeve shirt and long pants,
- Shoes plus socks, and
- Respirator of the type specified in the eye and respiratory protection section in the PPE requirements on this label if triggered.

All handlers who set-up and calibrate chemigation and irrigation equipment and start the application from inside the application block must wear:
- Long-sleeve shirt and long pants,
- Shoes plus socks,
- Protective eyewear, and
- Respirator of the type specified in the respiratory protection section in the PPE requirements on this label if triggered.

PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR RESPIRATORY PROTECTION

When respiratory protection is required, in lieu of protective eyewear, handlers must wear: At least a NIOSH-approved full-face, or helmet/hood style respirator with either
- An organic-vapor-removing cartridge with a prefilter approved for pesticides (NIOSH approval number prefix TC-23C), or
- A respirator with a canister approved for pesticides (NIOSH approval number prefix TC-14G).

RESPIRATORY AVAILABILITY
At least one handler must have the appropriate respirator and cartridges available, and they must be fit-tested, trained, and medically examined.

The fumigation handler employer must confirm and document in the FMP that an air purifying respirator and appropriate cartridges of the type specified in the PPE section of this labeling are immediately available for each handler who will wear one.

This must be documented in the FMP.

RESPIRATOR FIT TESTING, MEDICAL QUALIFICATION, AND TRAINING.
Employers must verify that any handler that uses a respirator is:
- Fit-tested and fit-checked using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134)
- Trained using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134)
- Examined by a qualified medical practitioner to ensure physical ability to safely wear the style of respirator to be worn. A qualified medical practitioner is a physician or other licensed health care professional who will evaluate the ability of a worker to wear a respirator. The initial evaluation consists of a questionnaire that asks about medical conditions (such as a heart condition) that would be problematic for respirator use. If concerns are identified, then additional evaluations, such as a physical exam, might be necessary. The initial evaluation must be done before respirator use begins. Handlers must be reexamined by a qualified medical practitioner if their health status or respirator style or use-conditions change.

USER SAFETY REQUIREMENTS:
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.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

The employer of any handler (as stated in this label) must make sure that all handlers are provided and correctly wear the required PPE. The PPE must be cleaned and maintained as required by the Worker Protection Standard for Agricultural Pesticides.

USER SAFETY RECOMMENDATIONS

Users should:
- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to mammals, birds, aquatic invertebrates and fish. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

Metam-sodium and metam-potassium has certain properties and characteristics in common with chemicals that have been detected in groundwater (highly soluble in water and has low adsorption to soil).

For untarped applications, leaching and runoff may occur if there is heavy rainfall after soil fumigation.

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), restricted-entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).
ENTRY RESTRICTIONS: For entry restricted period and notification requirements, see the *Entry Restricted Period* section of this labeling.
PPE FOR ENTRY DURING THE RESTRICTED PERIOD: PPE for entry that is permitted by this labeling is listed in the "Hazards to Humans and Domestic Animals, Entry Restricted Period" section of this labeling.

NEMASOL® 42%
EPA REG. NO. 34704-769

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

CALIFORNIA ONLY: Application must be in compliance with Technical Information Bulletin-California: Metam Sodium "Guidelines for all Application Methods for Metam Sodium in California." This information bulletin may be obtained from your local pesticide dealer or a Metam Sodium registrant.

MAXIMUM APPLICATION RATES FOR PRE-PLANT SOIL FUMIGATION

Maximum application rate is 320 lbs ai/A.

PROHIBITED APPLICATIONS

Use in greenhouses is prohibited. Application with handheld equipment is prohibited. Application with cement grinder and shredder equipment is prohibited. Open-pour applications are prohibited

PLANT BACK RESTRICTION:

Following proper aeration of fumigated land, the following crops may be planted:

Alfalfa; Asparagus (nursery production only); Artichokes; Barley; Basil; Beet; Berries [includes all EPA Crop Group 13, Berries Group, i.e., blackberry (*Rubus eubatus*), bingleberry, black satin berry, boysenberry, Cherokee blackberry, chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, lavacaberry, lowberry, lucretiaberry, mammoth blackberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, youngberry and varieties and/or hybrids of these, blueberry (*Vaccinium* spp.), currant (*Ribes* spp.), elderberry (*Sambucus* spp.), gooseberry (*Ribes* spp.), huckleberry (*Gaylussacia* spp.), loganberry (*Rubus loganobaccus*), raspberry-black and red (*Rubus occidentalis, Rubus strigosus, Rubus idaeus*)]; Broccoli; Brussels sprouts; Cabbage; Carrot; Cauliflower; Celeriac; Chineese greens or bok choy; Cilantro; Citrus (orchard replant only) [includes all of EPA Crop Group 10, Citrus Fruits, i.e., calamondin (*Citrus mitis X Citrofortunella mitis*), citrus citron (*Citrus medica*), citrus hybrids (*Citrus* spp.) (includes: chironja, tangelo, tangor), grapefruit (*Citrus paradisi*), kumquat (*Fortunella* spp.), lemon (*Citrus jambhiri, Citrus limon*), lime (*Citrus aurantiifolia*), mandarin (tangerine) (*Citrus reticulata*), orange, sour (*Citrus aurantium*), orange, sweet (*Citrus sinensis*), pummelo (*Citrus grandis, Citrus maxima*), satsuma mandarin (*Citrus unshiu*)]; Collard; Corn; Cover crops (i.e., crops planted between periods of regular crop production to prevent soil erosion, control weeds, and improve soil quality that are incorporated into the soil before the next crop is planted and may not be harvested for food or feed); Crops grown solely for seed; Cucurbits [includes all of EPA Crop Group 9, Cucurbit Vegetables Group, i.e., chayote (fruit) (*Sechium edule*), Chinese waxgourd (Chinese preserving melon) (*Benincasa hispida*), citron melon (*Citrullus lanatus* var. citroides), cucumber (*Cucumis sativus*), gherkin (*Cucumis anguria*), gourd, edible (*Lagenaria* spp.) [includes: hyotan, cucuzza (*Luffa acutangula, L. cylindrical*, includes hechima, Chinese okra)], *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), muskmelon [hybrids and/or cultivars of *Cucumis melo* (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon)], pumpkin (*Cucurbita* spp.), squash, summer (*Cucurbita pepo* var. melopepo) (includes: crookneck squash, scallop squash, straightneck squash, vegetable marrow, and zucchini), squash, winter (*Cucurbita maxima; C. moschata*) (includes: butternut squash, calabaza, hubbard squash) and (*C. mixta; C. pepo*) (includes acorn squash, spaghetti squash), and watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)]; Dill; Eggplant; Forest seedlings; Ginger; Grape (vineyard replant only); Kale; Kohlrabi; Leafy greens [includes all of EPA Crop Group 4, Leafy Vegetables (Except Brassica Vegetables), i.e., amaranth (leafy amaranth, Chinese spinach, tampala) (*Amaranthus* spp.), arugula (roquette) (*Eruca sativa*), cardoon (*Cynara cardunculus*), celery (*Apium graveolens* var. dulce), celery, Chinese (*Apium graveolens* var. secalinum), celtuce (*Lactuca sativa* var. angustana), chervil (*Anthriscus cerefolium*), chrysanthemum, edible-leaved (*Chrysanthemum coronarium* var. coronarium), chrysanthemum, garland (*Chrysanthemum coronarium* var. spatiosum), corn salad (*Valerianella locusta*), cress, garden (*Lepidium sativum*), cress, upland (yellow rocket, winter cress) (*Barbarea vulgaris*), dandelion (*Taraxacum officinale*), dock (sorrel) (*Rumex* spp.), endive (escarole) (*Cichorium endivia*), fennel, Florence (finochio) (Foeniculum vulgare Azoricum Group), lettuce, head and leaf (*Lactuca sativa*), orach (Atriplex hortensis), parsley (*Petroselinum crispum*), purslane, garden (*Portulaca oleracea*), purslane, winter (*Montia perfoliata*), radicchio (red chicory) (*Cichorium intybus*), rhubarb (*Rheum rhabarbarum*), spinach (*Spinacia oleracea*), spinach, New Zealand (*Tetragonia tetragonioides, T. expansa*), spinach, vine (Malabar spinach, Indian spinach) (*Basella alba*), and swiss chard (*Beta vulgaris* var. cicla)]; Leek; Mint; Mustard; Nursery stock (fruit seedlings and rose bushes only); Onion; Ornamentals (floriculture only); Pome fruit (orchard replant only) [includes all of EPA Crop Group 11, Pome Fruits Group—Commodities, i.e., apple (*Malus domestica*), crabapple (*Malus* spp.), loquat (*Eriobotrya japonica*), mayhaw (*Crataegus aestivalis, C. opaca,* and C. rufula), pear (*Pyrus communis*), pear, oriental (*Pyrus pyrifolia*), and quince (*Cydonia oblonga*)]; Peanut; Pepper; Potato; RADISH; RYE; SUGAR BEET; SOYBEAN; STONE FRUIT (ORCHARD REPLANT ONLY) [INCLUDES ALL OF EPA CROP GROUP 12, Stone Fruits Group—Commodities, i.e., apricot (*Prunus armeniaca*), cherry, sweet (*Prunus avium*), cherry, tart (*Prunus cerasus*),

nectarine (*Prunus persica*), peach (*Prunus persica*), plum (Prunus domestica, Prunus spp.), plum, Chickasaw (*Prunus angustifolia*), plum, Damson (*Prunus domestica* spp. insititia), plum, Japanese (*Prunus salicina*), plumcot (*Prunus. armeniaca X P. domestica*), prune (fresh) (*Prunus domestica, Prunus* spp.)]; Strawberries; Sugar beet; Sweet potato; Swiss Chard; Tobacco; Tomatoes; Tree nuts (orchard replant only) [includes all of EPA Crop Group 14, Tree Nuts Group (i.e., almond (*Prunus dulcis*), beech nut (*Fagus* spp.), Brazil nut (*Bertholletia excelsa*), butternut (*Juglans cinerea*), cashew (*Anacardium occidentale*), chestnut (*Castanea* spp.), chinquapin (*Castanea pumila*), filbert (hazelnut) (*Corylus* spp.), hickory nut (*Carya* spp.), macadamia nut (bush nut) (*Macadamia* spp.), pecan (*Carya illinoensis*), and walnut, black and English (Persian) (*Juglans* spp.) as well as pistachio]; Turnip; Turf (including golf courses); and Wheat; Cotton; Group 5 BRASSICA (COLE) LEAFY VEGETABLES: Collard, Kale, Bok Choy, Mustard (5B Leafy Brassica greens subgroup), Napa Cabbage, Kohlrabi (5A Head and Stem Brassica subgroup); 1A Root Vegetables Subgroup: Garden Beet, Radish, Oriental Radish, Celeriac; 19A Herb Subgroup: Dill, Basil, Cilantro; 3-07B Onion Green Subgroup: Leek; all nursery tree crops like maple, ash dogwood; blueberries; ornamental crops; anise; herbs (all); lima beans; green beans; fava beans; seed beans; peas English and garden; garlic; rappini; and yams.

PROTECTION FOR HANDLERS

For all applications except water run: from the start of the application until the fumigant has stopped being delivered/dispensed into the soil, i.e., after the soil is sealed, the certified applicator must be at the fumigation site in the line of sight of the application and must directly supervise all persons performing handling activities.

For all water-run applications (e.g., sprinkler/chemigation, wheel line, center pivot, lateral move, drip, flood, etc.), the certified applicator must be at the fumigation site in the line of sight of the application to start the application including set-up, calibration, and initiation of the application. The certified applicator may leave the site but must return at least every two hours to visually inspect the equipment to ensure proper functioning and must directly supervise all WPS-trained handlers on-site until the fumigation has stopped being delivered/dispersed into the soil. WPS-trained handlers may perform the monitoring functions in place of the certified applicator but must be under the supervision of the certified applicator and able to communicate with the certified applicator at all times during monitoring activities via cell phone or other means. The results of monitoring activities must be captured in the FMP (Fumigation Management Plan).

For handling activities that take place after the fumigant has been delivered/dispensed into the soil until the entry restricted period expires, the certified applicator does not have to be on-site, but must have communicated, in a manner that can be understood by the site owner/operator and handlers responsible for carrying out those activities, the information necessary to comply with the label and procedures described in the FMP (e.g., emergency response plans and procedures).

The results of communication activities must be captured in the FMP.

IMPORTANT: This requirement does not override the requirements in the Worker Protection Standard for Agricultural Pesticides for information exchange between owners/operators of agricultural establishments and commercial pesticide applicators.

The certified applicator must provide Fumigant Safe Handling information to each handler involved in the application or confirm that each handler participating in the application has received fumigant safe handling information in the past 12 months.

The following activities are prohibited from being performed in the fumigant application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period or, for center pivot applications will occur over many days, the total acres of a field treated and not separated by a 12 hour interruption) by anyone other than persons who have been appropriately trained and equipped as handlers in accordance with the requirements in the Worker Protection Standard (40 CFR Part 170), from the start of the application until the entry-restricted period ends. Those activities include those persons:

- Participating in the application as supervisors, loaders, drivers, tractor co-pilots, shovelers, cross ditchers, or as other direct application participants (the application starts when the fumigant is first introduced into the soil and ends after the fumigant has stopped being delivered/dispensed to the soil);
- Using devices to take air samples to monitor fumigant air concentrations;
- Persons cleaning up fumigant spills (this does not include emergency personnel not associated with the fumigation application);
- Handling or disposing of fumigant containers;
- Cleaning, handling, adjusting, or repairing the parts of fumigation equipment that may contain fumigant residues;
- Installing, repairing, operating, or removing irrigation equipment in the application block;
- Entering the application site to perform scouting, crop advising, or monitoring tasks;
- Installing, perforating (cutting, punching, slicing, poking), removing, repairing, or monitoring tarps:
  o until 14 days after application is complete if tarps are not perforated and removed during those 14 days, or

o until tarp removal is complete if tarps are **both** perforated **and** removed less than 14 days after application; or
o until 48 hours after tarps perforation is complete if they will not be removed within 14 days after application.
NOTE: see Tarp Perforation and Removal section on this labeling for requirements about when tarps are allowed to be perforated.

- Performing any handling tasks as defined by the WPS.

- In addition, to the above, persons outside the perimeter of the application block who visually monitor application equipment to ensure proper functioning and monitor fumigant air concentration in accordance with the fumigant site monitoring requirement must also be trained and equipped as handlers in accordance with the requirements in the WPS (40 CFR Part 170).

The certified applicator supervising the application and the owner/operator of the establishment where the fumigation is taking place must make sure that all persons who are not trained and PPE-equipped and who are not performing one of the handling tasks defined in this labeling are excluded from application block during the entry-restricted period.

RESPIRATORY PROTECTION AND STOP WORK TRIGGERS: The following procedures must be followed to determine whether an air-purifying respirator is required or if operations must cease for any person performing a handling task as defined in this labeling.

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) then either:
  o An air-purifying respirator must be worn by all handlers who remain in the application block, or
  o Operations must cease and handlers not wearing an air-purifying respirator must leave the application block.
- Handlers can remove respirators or resume operations if two consecutive breathing-zone samples taken at the handling site at least 15 minutes apart show that levels of MITC have decreased to less than 600 ppb, provided that handlers do not experience sensory irritation. Samples must be taken where the irritation is first experienced.
  o During the collection of air samples an air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the irritation is first experienced.
- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Draeger or Sensidyne device must be used. The devices must have a sensitivity of at least 600 ppb for MITC.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and with in a ten-inch radius of the handler's nose and mouth.
- When respirators are worn, then air-monitoring samples must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task.
- If at any time: (1) a handler experiences any sensory irritation when wearing an air-purifying respirator, or (2) an air sample is greater than or equal to 6,000 ppb, then all handler activities must cease and handlers must be removed from the application block. If operations cease the emergency plan detailed in the FMP must be implemented.
- Handlers can resume work activities without respiratory protection, if two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show levels of MITC have decreased to less than 600 ppb, provided that handlers do not experience sensory irritation. During the collection of air samples, an air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the irritation is experienced.
- Work activities can resume if the following conditions exist provided that the appropriate air-purifying respirator is worn:
  o Two consecutive breathing zone samples for MITC taken at the handling site at least 15 minutes apart must be less than 6,000 ppb,
  o Handlers do not experience sensory irritation while wearing the air-purifying respirator, and
  o Cartridges have been changed.
  o During the collection of air samples, an air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the irritation is first experienced.

TARP PERFORATION AND/OR REMOVAL
IMPORTANT: Persons perforating, repairing, removing, and/or monitoring tarps are defined, within certain time limitations, as handlers (see definition of fumigant handlers in this labeling) and must be provided the PPE and other protections for handlers as required on this labeling and in the Worker Protection Standard for Agricultural Pesticides.

- Tarps must not be perforated until a minimum of 5 days (120 hours) have elapsed after the fumigant injection into the soil is complete (e.g., after injection of the fumigant product and tarps have been laid or after drip lines have been purged and tarps have been laid), unless a weather condition exists which necessitates the need for early perforation or removal See *Early Tarp Removal for Broadcast Applications Only* and *Early Tarp Perforation for Flood Prevention Activities* sections.

- If tarps will be removed before planting, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps will not be removed before planting, planting or transplanting must not begin until at least 48 hours after the tarp perforation is complete.
- If tarps are left intact for a minimum of 14 days after fumigant injection into the soil is complete, planting or trans planting may take place while the tarps are being perforated.
- Each tarp panel used for broadcast fumigation must be perforated.
- Tarps used for fumigations may be perforated manually ONLY for the following situations:
  - o At the beginning of each row when a coulter blade (or other device which performs similarly) is used on a motorized vehicle such as an ATV.
  - o In fields that are 1 acre or less.
  - o During flood prevention activities.
- In all other instances tarps must be perforated (cut, punched, poked, or sliced) only by mechanical methods.
- Tarp perforation for broadcast fumigations must be completed before noon.
- For broadcast fumigations, tarps must not be perforated if rainfall is expected within 12 hours.
- Early Tarp Removal for Broadcast Applications Only:
  - o Tarps may be removed before the required 5 days (120 hours) if adverse weather conditions have compromised the integrity of the tarp, provided that the compromised tarp poses a safety hazard. *Adverse weather* includes high wind, hail, or storms that blow tarps off the field and create a hazard, e.g., tarps blowing into power lines and onto roads. A *compromised tarp* is a tarp that due to an adverse weather condition is no longer performing its intended function and is creating a hazard.
  - o If tarps are removed before the required 5 days have elapsed due to adverse weather, the events must be documented in the post-fumigation summary section of the FMP. Tarp Perforation and/or Removal
- Early Tarp Perforation for Flood Prevention Activities
  - o Tarp perforation is allowed before the 5 days (120 hours) have elapsed if rain necessitates field drainage.
  - o Tarps must be immediately retucked and packed after soil removal.

ENTRY RESTRICTED PERIOD: Entry (including early entry that would otherwise be permitted under the WPS) by any person – other than a correctly trained and PPE-equipped handler who is performing a handling task listed on this labeling – is PROHIBITED from the start of the application until:

- 5 days (120 hours) after the application is complete for untarped applications, or
- 5 days (120 hours) after application is complete if tarps are not perforated and removed for at least 14 days following application, or
- 48 hours after tarps perforation is complete if they will not be removed for at least 14 days following application, or
- until tarp removal is completed if tarps are both perforated and removed less than 14 days after application.

NOTE: see ***Tarp Perforation and Removal*** section on this labeling for requirements about when tarps are allowed to be perforated.

NOTIFICATION REQUIREMENT

Notification: Notify workers of the application by warning them orally and by posting Fumigant Treated Area signs. The signs must bear the skull and crossbones symbol and state:

- "DANGER/PELIGRO,"
- "Area under fumigation, DO NOT ENTER/NO ENTRE,"
- "Metam Sodium or Metam Potassium Fumigant in USE."
- the date and time of fumigation,
- the date and time entry restricted period is lifted,
- brand name of this product, and
- name, address, and telephone number of the certified applicator in charge of the fumigation.

Post the Fumigant Treated Area sign instead of the WPS sign for this application but follow all WPS requirements pertaining to location, legibility, size, and timing of posting and removal.

Post the Fumigant Treated Area signs at all entrances to the application block (i.e the field or portion of a field treated with a fumigant in any 24-hour period or, for center pivot applications with occur over many days, the total acres of a field treated and not separated by a 12 hour interruption).

MANDATORY GOOD AGRICULTURAL PRACTICES (GAPS):

The following GAPs must be followed during all fumigant applications. All measurements and other documentation planned to ensure that the mandatory GAPs are achieved must be recorded in the FMP and/or the post-application summary report.

Shank Applications

Wind Speed

- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.

Weather Conditions

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist or are predicted (see *Identifying Unfavorable Weather Conditions* section) and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions

- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions, Injection Depth, and Soil Sealing

- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to or during the soil fumigant application. The soil must be tilled, at a minimum to the depth of the treatment zone.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

The injection point for bedded and broadcast shank injection applications shall be a minimum of 3 inches from the final soil/air interface. Chisel traces must be eliminated following an application and the soil surface must be sealed immediately after application using one of the following methods:

- Compaction with a bed-shaper, roller, press wheel or similar device, OR
- Covering the treated soil with 3-6 inches of untreated soil, OR
- Applying a minimum of a ½-inch of water beginning immediately after application of a set and completing the water treatment within four hours, OR
- Covering treated area with a tarp.

Tarps

- When tarps are used for emission control, tarps must be installed immediately after application.
- When tarps are used, a written tarp plan must be developed and included in the FMP that includes:
  - o Schedule and procedures for checking tarpaulins for damage, tears, and other problems,
  - o Plans for determining when and how repairs to tarp will be made, and by whom,
  - o Minimum time following injection that tarp will be repaired,
  - o Minimum size of damage that will be repaired,
  - o Other factors used to determine when tarp repair will be conducted,
  - o Schedule, equipment and methods used to cut tarp,
  - o Aeration plans and procedures following cutting and /or slitting prior to tarp removal or planting, and
  - o Schedule, equipment, and procedures for tarp removal.

Soil Temperature

- The maximum soil temperature at the point of injection is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperature must be measures and recorded in the FMP.

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Soil Moisture

- The soil moisture in the top six inches of soil must be at 60% to 80% of soil capacity immediately prior to the application, subject to the exception below.
- EXCEPTION: In areas where soil moisture must exceed field capacity to form a bed (e.g., certain regions in Florida), soil capacity may exceed the 80% allocated above.
- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is at 60% to 80% soil capacity immediately prior to the application, the USDA Feel Method test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent avail able soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
  fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
  For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.
- If there is insufficient moisture throughout the top six inches of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage before or during injection. To conserve existing soil moisture, pretreatment or treatment tillage should be done as close to the time of application as possible.

Application and Equipment Considerations

- Do not apply or allow fumigant to drain or drip onto the soil surface. Injectors must be placed below the soil surface before product flow begins. For each injection line either have a check valve located as close as possible to the final injection point, or drain/purge the line of any remaining fumigant prior to lifting injection shanks from the ground. Do not lift injection shanks from the soil until the shut-off valve has been closed and the fumigant has been depressurized (passively drained) or purged (actively forced out via air compressor) from the system.
- Application equipment must be in good working order.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Sight gauges and pressure gauges must be working.
- Nozzles and metering devices must be the correct size and sealed and unobstructed.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- Each nozzle must be equipped with a flow monitor, e.g. mechanical, electronic, or Red-ball type monitor.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- All rigs must include a filter to remove any particulates from the fumigant, and a check valve that is visible to the tractor pilot during application to prevent backflow of the fumigant into the pressurizing cylinder.
- All rigs must include a flow meter or a flow monitoring device.
- All rigs must have a constant pressure system with orifice plates to insure the proper amount of fumigant is applied.
- Valves, vacuum relief valves, and low pressure drains must be in place, operational, and leak free.
- Interlocking controls must be installed and functioning.
- Use only positive displacement pumps. Do NOT use impellors made of brass, aluminum, or galvanized material.
- Before using a fumigation rig for the first time, or when preparing it for use after storage, the operator must check the following items carefully:
  o Check the filter, and clean or replace the filter element as required.
  o Check all tubes and chisels to make sure they are free of debris and obstructions.
  o Check and clean the orifice plates.

Spray Blade Applications (includes bed-top balad and soil cap applications)

Wind Speed
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.

Weather Conditions
- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist or are predicted (see *Identifying Unfavorable Weather Conditions* section) and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions
- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions, Injection Depth, and Soil Sealing
- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to or during the soil fumigant application. The soil must be tilled, at a minimum to the depth of the treatment zone.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Spray or drip the product mixture on the soil immediately ahead of the bed-shaping equipment or tiller. The soil surface must be compacted immediately after application using one of the following methods:
- Compaction with a bed-shaper, roller, press wheel or similar device, OR
- Covering the treated soil with 3-6 inches of untreated soil, OR
- Applying a minimum of a ½-inch of water beginning immediately after application of a set and completing the water treatment within four hours, OR
- Covering treated area with a tarp.

Tarps
- When tarps are used for emission control, tarps must be installed immediately after application.
- When tarps are used, a written tarp plan must be developed and included in the FMP that includes:
  - o Schedule and procedures for checking tarpaulins for damage, tears, and other problems,
  - o Plans for determining when and how repairs to tarp will be made, and by whom,
  - o Minimum time following injection that tarp will be repaired,
  - o Minimum size of damage that will be repaired,
  - o Other factors used to determine when tarp repair will be conducted,
  - o Schedule, equipment and methods used to cut tarp,
  - o Aeration plans and procedures following cutting and /or slitting prior to tarp removal or planting, and
  - o Schedule, equipment, and procedures for tarp removal.

Soil Temperature
- The maximum soil temperature at the point of injection is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperature must be measures and recorded in the FMP.

Soil Moisture

- The soil moisture in the top six inches of soil must be at 60% to 80% of soil capacity immediately prior to the application, subject to the exception below.
- EXCEPTION: In areas where soil moisture must exceed field capacity to form a bed (e.g., certain regions in Florida), soil capacity may exceed the 80% allocated above.
- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is at 60% to 80% soil capacity immediately prior to the application, the USDA Feel Method test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
  fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
  For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.
- If there is insufficient moisture throughout the top six inches of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage before or during injection. To conserve existing soil moisture, pretreatment or treatment tillage should be done as close to the time of application as possible.

Application and Equipment Considerations

- Do not apply or allow fumigant to drain or drip onto the soil surface
- Application equipment must be in good working order.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Sight gauges and pressure gauges must be working.
- Nozzles and metering devices must be the correct size and sealed and unobstructed.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- Each nozzle must be equipped with a flow monitor, e.g. mechanical, electronic, or Red-ball type monitor.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- All rigs must include a filter to remove any particulates from the fumigant, and a check valve that is visible to the tractor pilot during application to prevent backflow of the fumigant into the pressurizing cylinder.
- Before using a fumigation rig for the first time, or when preparing it for use after storage, the operator must check the following items carefully:
  o Check the filter, and clean or replace the filter element as required.
  o Check all tubes and chisels to make sure they are free of debris and obstructions.
  o Check and clean the orifice plates.

Rotary Tiller Applications

Wind Speed

- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.

Weather Conditions

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist or are predicted (see *Identifying Unfavorable Weather Conditions* section) and whether fumigation should proceed.

- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions
- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions, Injection Depth, and Soil Sealing
- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to or during the soil fumigant application. The soil must be tilled, at a minimum to the depth of the treatment zone.

- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Spray or drip the product mixture on the soil immediately ahead of the bed-shaping equipment or tiller. The soil surface must be compacted immediately after application using one of the following methods:
- Compaction with a bed-shaper, roller, press wheel or similar device, OR
- Covering the treated soil with 3-6 inches of untreated soil, OR
- Applying a minimum of a ½-inch of water beginning immediately after application of a set and completing the water treatment within four hours, OR
- Covering treated area with a tarp.

Tarps
- When tarps are used for emission control, tarps must be installed immediately after application.
- When tarps are used, a written tarp plan must be developed and included in the FMP that includes:
  - o Schedule and procedures for checking tarpaulins for damage, tears, and other problems,
  - o Plans for determining when and how repairs to tarp will be made, and by whom,
  - o Minimum time following injection that tarp will be repaired,
  - o Minimum size of damage that will be repaired,
  - o Other factors used to determine when tarp repair will be conducted,
  - o Schedule, equipment and methods used to cut tarp,
  - o Aeration plans and procedures following cutting and /or slitting prior to tarp removal or planting, and
  - o Schedule, equipment, and procedures for tarp removal.

Soil Temperature
- The maximum soil temperature at the point of injection is 90 degrees F.
- If air temperatures have been above 100•F in any of the three days prior to application, then soil temperature must be measures and recorded in the FMP.

Soil Moisture
- The soil moisture in the top six inches of soil must be at 60% to 80% of soil capacity immediately prior to the application, subject to the exception below.
- EXCEPTION: In areas where soil moisture must exceed field capacity to form a bed (e.g., certain regions in Florida), soil capacity may exceed the 80% allocated above.
- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is at 60% to 80% soil capacity immediately prior to the application, the USDA Feel Method test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water

staining on fingers, will not ribbon.
moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.

- If there is insufficient moisture throughout the top six inches of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage before or during injection. To conserve existing soil moisture, pretreatment or treatment tillage should be done as close to the time of application as possible.

Application and Equipment Considerations

- Do not apply or allow fumigant to drain or drip onto the soil surface
- Application equipment must be in good working order.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Sight gauges and pressure gauges must be working.
- Nozzles and metering devices must be the correct size and sealed and unobstructed.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- Each nozzle must be equipped with a flow monitor, e.g. mechanical, electronic, or Red-ball type monitor.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- All rigs must include a filter to remove any particulates from the fumigant, and a check valve that is visible to the tractor pilot during application to prevent backflow of the fumigant into the pressurizing cylinder.
- Before using a fumigation rig for the first time, or when preparing it for use after storage, the operator must check the following items carefully:
  o Check the filter, and clean or replace the filter element as required.
  o Check all tubes and chisels to make sure they are free of debris and obstructions.
  o Check and clean the orifice plates.

Center Pivot Applications

Wind Speed

- For mid-release, high-release and end-gun sprinkler or chemigation applications as defined by U.S. EPA, wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach 5 mph during the application and the maximum wind speed is 10 mph.
- For low-release height solid-stream sprinkler or chemigation applications as defined by U.S. EPA, wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach 5 mph during the application and the maximum wind speed is 25 mph.

Weather Conditions

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation *must* be checked to determine if unfavorable weather conditions exist or are predicted and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Serice in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

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Identifying Unfavorable Weather Conditions

- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions

- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, tillage to fracture these layers must occur. The soil must be tilled prior to the soil fumigant application, at minimum, to the depth of the treatment zone.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Except when applying over cover crops as set forth in the General Instructions for Sprinkler System, crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Air Temperature

- The maximum air temperature is 90 degrees F.

Soil Temperature

- The maximum soil temperature, measured at a three-inch soil depth, is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperature must be measures and recorded in the FMP.

Soil Moisture

- The soil moisture in the top six inches of soil must be at 60-80% soil capacity immediately prior to the application.
- If appropriate measuring equipment is not used to determine whether soil moisture in the top six inches of soil at 60% to 80% of soil capacity immediately prior to the application, the USDA *Feel Method* test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
  fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
  For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.
- If there is insufficient moisture throughout the top six inches below the surface of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage, discing or plowing before the application. To conserve existing soil moisture, pre treatment or treatment tillage should be done as close to the time of application as possible.

Flushing Irrigation Lines

- Do not allow fumigant to remain in the irrigation system after the application is complete. After application of the fumigant, flush the injection and irrigation system with untreated water. The flush time must be adequate to purge the fumigant from the injection and irrigation system, but should be less than the amount that could over-saturate the beds. If common lines are used for both the fumigant application and the water treatment/seal (if applied), these lines must be adequately flushed before starting the water treatment/seal.

Application and Equipment Considerations

- Anti-siphon and back-flow prevention devices must be installed and in working order.
- Use only tanks constructed with materials approved for handling metam. Tanks must be inspected, in good condition, and not past their life expectancy to ensure product does not spill or leak.
- Tanks must have proper pesticide labels on them.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- Use only positive displacement pumps. DO NOT use impellors made of brass, aluminum or galcanised material.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally-closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 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.

Solid Set Sprinkler Applications

Wind Speed

- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach 5 mph during the application and the maximum wind speed is 10 mph.

Weather Conditions

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist or are predicted and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions

- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions

- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, tillage to fracture these layers must occur. The soil must be tilled prior to the application, at a minimum to the depth of the treatment zone.

- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Except when applying over cover crips as set forth in the General Instructions for Sprinker System, crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Air Temperature
- The maximum air temperature is 90 degrees F.

Soil Temperature
- The maximum soil temperature, measured at a three-inch soil depth, is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperatures must be measured and recorded in the FMP.

Soil Moisture
- The soil moisture in the top six inches of soil must be 60-80% soil capacity immediately prior to the application.
- If appropriate measuring equipment is not used to determine whether soil moisture in the top six inches of soil at 60% to 80% of soil capacity immediately prior to the application the USDA *Feel Method* test may be used to estimate whether the 60% to 80% soil capacity requirement is met:.
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse *textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75* percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
  fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
  For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.
- If there is insufficient moisture throughout the top six inches below the surface of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage, discing or plowing before the application. To conserve existing soil moisture, pre treatment or treatment tillage should be done as close to the time of application as possible.

Flushing Irrigation Lines
- Do not allow fumigant to remain in the irrigation system after the application is complete. After application of the fumigant, flush the injection and irrigation system with untreated water. The flush time must be adequate to purge the fumigant from the injection and irrigation system, but should be less than the amount that could over-saturate the beds. If common lines are used for both the fumigant application and the water treatment/seal (if applied), these lines must be adequately flushed before starting the water treatment/seal.

Application and Equipment Considerations
- Anti-siphon and back-flow prevention devices must be installed and in working order.
- Use only tanks constructed with materials approved for handling metam. Tanks must be inspected, in good condition, and not past their life expectancy to ensure product does not spill or leak.
- Tanks must have proper pesticide labels on them.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- Use only positive displacement pumps. Do NOT use impellors made of brass, aluminum, or galvanized material.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.

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

GAPs for Drench Application

Wind Speed
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach 5 mph during the application.

Weather Conditions
- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist or are predicted and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions
- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions
- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to the soil fumigant application. The soil must be tilled, at a minimum to the depth of the treatment zone.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Air Temperature
- The maximum air temperature is 90 degrees F.

Soil Temperature
- The maximum soil temperature, measured at a three-inch soil depth, is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperature must be measured and recorded in the FMP.

Soil Moisture

- The soil moisture in the top six inches of soil must be at 60-80% soil capacity immediately prior to the application.
- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is at 60% to 80% soil capacity immediately prior to the application, the USDA *Feel Method* test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
  fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
  For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.
- If there is insufficient moisture throughout the top six inches below the surface of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage, discing or plowing before the application. To conserve existing soil moisture, pre treatment or treatment tillage should be done as close to the time of application as possible.
- Applications must be followed immediately with 0.20 to 0.50 inches of water through solid set sprinklers.
- A minimum of two more water seals must be applied; one water seal on the first evening of the application and the second on the evening of the day after application.

Application and Equipment Considerations

- Anti-siphon and back-flow prevention devices must be installed and in working order.
- Use only tanks constructed with materials approved for handling metam. Tanks must be inspected, in good condition, and not past their life expectancy to ensure product does not spill or leak.
- Tanks must have proper pesticide labels on them.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- To inject fumigant, use a metering system, effectively designed and constructed of materials that are compatible with the fumigant and capable of being fitted with system interlocking controls.
- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally-closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 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.

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Drip Application

Wind Speed
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.

Weather Conditions
- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation *must* be checked to determine if unfavorable weather conditions exist or are predicted and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions
- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions
- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to the soil fumigant application. The soil must be tilled, at a minimum to the depth of the treatment zone.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Air Temperature
- The maximum air temperature is 90 degrees F.

Soil Temperature
- The maximum soil temperature, measured at a three-inch soil depth, is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperature must be measured and recorded in the FMP.

Soil moisture
- Soil moisture in the top six inches of soil must be at 60 to 80% field capacity immediately prior to application, subject to the exception below.
- EXCEPTION: In areas where soil moisture must exceed field capacity to form a bed (e.g., certain regions in Florida), soil capacity may exceed the 80% allocated above.
- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is at 60% to 80% soil capacity immediately prior to the application, the USDA *Feel Method* test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.

fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.

For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.

- If there is insufficient moisture throughout the top six inches of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage before or during injection. To conserve existing soil moisture, pretreatment or treatment tillage should be done as close to the time of application as possible.

Tarps

- When tarps are used for emission control in drip irrigation the tarps must be installed immediately after application.
- When tarps are used, a written tarp plan must be developed and included in the FMP that that includes:
  - o Schedule and procedures for checking tarpaulins for damage, tears, and other problems,
  - o Plans for determining when and how repairs to tarp will be made, and by whom,
  - o Minimum time following injection that tarp will be repaired,
  - o Minimum size of damage that will be repaired,
  - o Other factors used to determine when tarp repair will be conducted,
  - o Schedule, equipment and methods used to cut tarp,
  - o Aeration plans and procedures following cutting and /or slitting prior to tarp removal or planting, and
  - o Schedule, equipment, and procedures for tarp removal.

Flushing Drip Irrigation Lines

- After application of the fumigant, continue to irrigate the area with water to flush the injection and irrigation system with untreated water. Do not allow fumigant to remain in the irrigation system after the application is complete. The total volume of water must be adequate to completely remove the fumigant from the irrigation system, but should be less than the amount that could over-saturate the beds. If common lines are used for both the fumigant application and the water treatment/seal (if applied), these lines must be adequately flushed before starting the water treatment/seal and/or normal irrigation practices.

Application and Equipment Considerations

- Anti-siphon and back-flow prevention devices must be installed and in working order.
- Use only tanks constructed with materials approved for handling metam. Tanks must be inspected, in good condition, and not past their life expectancy to ensure product does not spill or leak.
- Tanks must have proper pesticide labels on them.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- The drip irrigation system (main lines, headers, drip tape) must be thoroughly checked for leaks before the start of the application. An adequate run-time and pressure are needed to detect leaks. Look for puddling along major pipes (holes on pipes or leaky joints), at the top and ends of rows (leaky connections, open drip tape), in the furrows and on the bed surface (damaged drip tape, malfunctioning emitters).
- To inject fumigant, use a metering system, effectively designed and constructed of materials that are compatible with the fumigant and capable of being fitted with system interlocking controls.
- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally-closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch that will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

- 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.

Flood Basin, Furrow and Border Application

Wind Speed
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.

Weather Conditions
- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist or are predicted and whether fumigation should proceed.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 \ consecutive hours for the 48-hour period after the start of application, or if there is an air-stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov. For further guidance, contact your local National Weather Service Forecasting Office.

Identifying Unfavorable Weather Conditions
- Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Soil Conditions
- Soil must be in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to the soil fumigant application. The soil must be tilled, at a minimum to the depth of the treatment zone.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.

Tarps
- When tarps are used for emission control, tarps must be installed immediately after application.
- When tarps are used, a written tarp plan must be developed and included in the FMP that includes:
  - o Schedule and procedures for checking tarpaulins for damage, tears, and other problems,
  - o Plans for determining when and how repairs to tarp will be made, and by whom,
  - o Minimum time following injection that tarp will be repaired,
  - o Minimum size of damage that will be repaired,
  - o Other factors used to determine when tarp repair will be conducted,
  - o Schedule, equipment and methods used to cut tarp,
  - o Aeration plans and procedures following cutting and /or slitting prior to tarp removal or planting, and
  - o Schedule, equipment, and procedures for tarp removal.

Air Temperature
- The maximum air temperature is 90 degrees F.

Soil Temperature
- The maximum soil temperature, measured at a three-inch soil depth, is 90 degrees F.
- If air temperatures have been above 100 degrees F in any of the three days prior to application, then soil temperature must be measured and recorded in the FMP.

Soil Moisture

- Soil moisture in the top six inches of soil must be at 60 to 80% field capacity immediately prior to application, subject to the exception below.
- EXCEPTION: In areas where soil moisture must exceed field capacity to form a bed (e.g., certain regions in Florida), soil capacity may exceed the 80% allocated above.
- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is at 60% to 80% soil capacity immediately prior to the application, the USDA *Feel Method* test may be used to estimate whether the 60% to 80% soil capacity requirement is met:
  coarse textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.
  moderately coarse textured soils (sandy loam and fine sandy loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.
  medium textured soils (sandy clay loam, loam, and silt loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.
  fine textured soils (clay, clay loam, and silty clay loam) there must be enough moisture (50 to 75 percent available soil water moisture) to form a smooth ball with defined finger marks, light soil/water staining on fingers, ribbons between thumb and forefinger.
  For fields with more than one soil texture, soil moisture content in the lightest textured (most sandy) areas must comply with this soil moisture requirement. The field may be divided into areas of similar soil texture and the soil moisture of each area should be adjusted as needed. Coarser textured soils can be fumigated under conditions of higher soil moisture than finer textured soils; however, if the soil moisture is too high, fumigant movement will be retarded and effectiveness of the treatment will be reduced. Previous and/or local experience with the soil to be treated or the crop to be planted can often serve as a guide to conditions that will be acceptable. If there is uncertainty in determining the soil moisture content of the area to be treated, a local extension service or soil conservation service specialist or pest control advisor (agriculture consultant) should be consulted for assistance.
- If there is insufficient moisture throughout the top six inches of soil immediately prior to the application, the soil moisture must be adjusted. If there is adequate soil moisture below six inches, soil moisture can be brought to the surface by tillage before or during injection. To conserve existing soil moisture, pretreatment or treatment tillage should be done as close to the time of application as possible.

Application and Equipment Considerations

- Systems using a gravity flow pesticide dispersing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- Meter at a steady rate into 3 to 18 inches of water per treated acre during irrigation. IMPORTANT: Prior to starting the application, always inspect ditches and border areas to ensure containment of the irrigation waters. Apply only into field head ditch. DO NOT APPLY INTO ANY LATERAL DITCHES.
- Back-flow prevention devices must be installed and in working order.
- Use only tanks constructed with materials approved for handling metam. Tanks must be inspected, in good condition, and not past their life expectancy to ensure product does not spill or leak.
- Tanks must have proper pesticide labels on them.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- To inject fumigant, use a metering system, effectively designed and constructed of materials that are compatible with the fumigant and capable of being fitted with system interlocking controls.
- Systems using a gravity flow pesticide dispersing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- Flow rates must be calibrated and checked for each application.
- All previous materials applied with the system must be cleaned thoroughly prior to fumigant application.
- System must be flushed after application to totally remove all fumigant.

SITE-SPECIFIC FUMIGATION MANAGEMENT PLAN (FMP)

Prior to the start of fumigation, the certified applicator supervising the application must verify that a site-specific fumigation management plan (FMP) exists for each application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period). In addition, agricultural operations fumigating multiple application blocks as part of a larger fumigation may format their FMP in a manner whereby all of the information that is common to all the application

blocks is captured once, and any information unique to a particular application block or blocks is captured in subsequent, separate sections.

The FMP must be prepared by the certified applicator, the site owner/operator, registrant, or other party.

The certified applicator must verify in writing (sign and date) that the site-specific FMP(s) reflect current site conditions before the start of fumigation.

Each site specific FMP must contain the following elements:

- Applicator information (name, phone number, pesticide applicator license number, employer name, employer address)
- General site information
  - Application block location (e.g., county, township, range, quadrant), address, or global positioning system (GPS) coordinates
  - Name, address, and, phone number of owner/operator of the application block
- General application information (target application date/window, brand name of fumigant, EPA registration number)
- Tarp Information and procedures for repair, perforation and removal (if tarp is used)
  - Brand name, lot number, thickness
  - Name and phone number of person responsible for repairing tarps
  - Schedule for checking tarps for damage, tears, and other problems
  - Maximum time following notification of damage that the person(s) responsible for tarp repair will respond
  - Minimum time following application that tarp will be repaired
  - Minimum size of damage that will be repaired
  - Other factors used to determine when tarp repair will be conducted
  - Name and phone number of person responsible for cutting and/or removing tarps (if other than certified applicator)
  - Equipment/methods used to cut tarps
  - Schedule and target dates for cutting tarps
  - Schedule and target dates for removing tarps
- Soil conditions (description of soil texture in application block, method used to determine soil moisture)
- Weather conditions (summary of forecasted conditions for the day of the application and the 48-hour period following the fumigant application)
  - Wind speed
  - Inversion conditions (e.g., shallow, compressed (low-level) temperature inversion)
  - Air stagnation advisory
- Respirators and other personal protective equipment (PPE) for handlers (handler task, protective clothing, respirator type, respirator cartridge type, respirator cartridge replacement schedule, eye protection, gloves, other PPE)
- Emergency procedures (evacuation routes, locations of telephones, contact information for first responders, local/state/federal/tribal contacts, key personnel and emergency procedures/responsibilities in case of an incident, equipment/tarp/seal failure, odor complaints, or other emergencies).
- Fumigant Treated Area posting procedures (name, address, and phone number of person(s) who will post Fumigant Treated Area signs, location of posting Fumigant Treated Area signs, procedures for Fumigant Treated Area sign removal)
- Plan describing how communication will take place between applicator, land owner/operator, and other on-site handlers (e.g., tarp cutters/removers, irrigators) for complying with label requirements (e.g., treated area location, timing of tarp cutting and removal, PPE).
  - Name and phone number of persons contacted
  - Date contacted
- Authorized on-site personnel
  - Name, address, and phone number of handlers
  - Name, address, and phone number for employers of handlers
  - Tasks that each handler is authorized and trained to perform
  - For handlers designated to wear air purifying respirators (an air-purifying respirator is required for a minimum of one handler):
  - date of medical qualification to wear an air-purifying respirator,
  - date of air-purifying respirator training, and
  - date of fit-testing for the air-purifying respirator.

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- Air monitoring Air monitoring plan
  - If sensory irritation is experienced, indicate whether operations will be ceased or operations will continue with an air-purifying respirator
  - If the intention is to cease operations when sensory irritation is experienced, provide the name, address, and phone number of the handler that will perform monitoring activities prior to operations resuming
  - When air-purifying respirators are worn:
    - ~ Representative handler tasks to be monitored
    - ~ Monitoring equipment to be used and timing of monitoring
- Good Agricultural Practices (GAPs)
  - Description of applicable mandatory GAPs (registrants may also include optional GAPs)
  - Measurements and documentation to ensure GAPs are achieved (e.g., measurement of soil and other site conditions)
- Description of hazard communication. (The treated area has been posted in accordance with the label. Pesticide product labels and material safety data sheets are on-site and readily available for employees to review.)
- Record-keeping procedures (the owner/operator of the application block as well as the certified applicator, must keep a signed copy of the site-specific FMP for 2 years from the date of application).

For situations where an initial FMP is developed and certain elements do not change for multiple fumigation sites (e.g. applicator information, authorized on-site personnel, record keeping procedures, emergency procedures, etc.) only elements that have changed need to be updated in the site-specific FMP provided the following:

- The certified applicator supervising the application has verified that those elements are current and applicable to the application block before it is fumigated and has documented the verification in the site-specific FMP; and
- Record-keeping requirements are followed for the entire FMP (including elements that do not change)

Once the application begins, the certified applicator must make a copy of the FMP available for viewing by handlers involved in the fumigation. The certified applicator or the owner/operator of the application block must provide a copy of the FMP to any local/state/federal/tribal enforcement personnel who request the FMP. In the case of an emergency, the FMP must be made immediately available when requested by local/state/federal/tribal emergency response and enforcement personnel.

Within 30 days of completing the application portion of the fumigation process, the certified applicator supervising the application must complete a post-fumigation application summary that describes any deviations from FMP that have occurred, measurements taken to comply with GAPs, as well as any complaints and/or incidents that have been reported to him/her.

The Post-Application Summary must contain the following elements:

- Actual date of the application, application rate, and size of application block fumigated
- Summary of weather conditions on the day of the application and during the 48-hour period following the fumigant application
- Tarp damage and repair information (if applicable)
  - Location and size of tarp damage
  - Description of tarp/tarp seal/tarp equipment failure
  - Date and time of tarp repair
- Tarp perforation/removal details (if applicable)
  - Description of tarp removal (if different than in the FMP)
  - Date tarps were perforated
  - Date tarps were removed
- Complaint details (if applicable)
  - Person filing complaint (e.g., on-site handler, person off-site)
  - If off-site person, name, address, and phone number of person filing complaint
  - Description of control measures or emergency procedures followed after complaint
- Description of incidents, equipment failure, or other emergency and emergency procedures followed (if applicable)
- Details of elevated air concentrations monitored on-site (if applicable)
  - Location of elevated air concentration levels
  - Description of control measures or emergency procedures followed
    - ~ When sensory irritation experienced:
      - + Date and time of sensory irritation
      - + Handler task/activity

+ Handler location where irritation was observed
+ Resulting action (e.g., cease operations, continue operations with air-purifying respirators)

~ When using a direct read instrument:
+ Sample date and time
+ Handler task/activity
+ Handler location
+ Air concentration
+ Sampling method

- Date of Fumigant Treated Area sign removal
- Any deviations from the FMP
- Record-keeping procedures (the owner/operator of the application block as well as the certified applicator must keep a signed copy of the post-application summary for 2 years from the date of application).

APPLICATION INSTRUCTIONS

Before applying this product always thoroughly cultivate the area to be treated, breaking up clods and loosening soil deeply and thoroughly. A week before treatment, moisten soil after cultivation to the desired depth; sprinkle or flood irrigate. This step is essential for all methods of use. Immediately before application, cultivate lightly if the soil has crusted. See FIELD PREPARATION PRIOR TO APPLICATION section for specific directions on the application of NEMASOL 42% to fields where no-till stubble or cover crop exist. To prevent loss from evaporation, use only at times when air temperature is moderate and there is little wind movement. Soil temperature must be from 40° to 90°F in the treated zone. Treated zone is defined as the depth of treatment that NEMASOL 42% achieves at the time of application. For other conditions, see section, "CULTIVATION AND PLANTING AFTER APPLICATION". Do not apply to soil surface, as in the sprinkler method, when air temperature is over 90°F or when low humidity or high winds would cause loss of NEMASOL 42% before it can be drenched into the soil with additional water. If fumes become unpleasant during treatment, apply more water to seal the fumes into the soil where they should be confined to achieve maximum fumigation benefit.
The activity of NEMASOL 42% is increased by the use of tarp (plastic, paper or fabric) spread loosely over the treated areas and secured to prevent removal by wind. Keep covered for a minimum period of 48 hours. Seven days after treatment cultivate areas to depth of 2 inches to aerate the soil. Do not seed earlier than 21 days after application when tarping method is used. Use promptly after mixing with water. Do not allow solution to stand. Flush equipment with water after each day's use. Disassemble valves and clean carefully.

PRODUCT INFORMATION

NEMASOL 42% is a water soluble liquid. When applied to properly prepared soil, the liquid is converted into a gaseous fumigant. After sufficient interval of time, the gas dissipates leaving the soil ready for planting.

WHEN TO USE MAXIMUM AND MINIMUM RATES

The application rate of NEMASOL 42% is dependent on the soil type to be treated and the position in the soil of the pest to be suppressed or controlled. Generally a light sandy soil requires a lower application rate than a heavier mineral soil. In addition, if the pest is in the upper portion of the soil profile (annual weeds) a lower application rate is generally required than if the pest is deeper in the soil profile and deeper penetration is desired (perennial weeds seeds). When a range of application rates is given in this label consult your local agricultural extension service for more specific information.
NEMASOL 42% is recommended for the suppression of the following soil-borne pests that attack ornamental, food and fiber crops:
Weeds and germinating weed seeds; Annual Bluegrass, Bermudagrass, Chickweed, Dandelion, Ragweed, Henbit, Lambsquarter, Amaranthus spp. (Pigweed & Careless Weed), Watergrass, Johnsongrass, Nutgrass, Wild Morningglory and Purslane; **Nematodes and Symphylids** (Garden Centipede) and **Soil-borne Diseases** such as Rhizoctonia, Pythium, Phytophthora, Verticillium, Sclerotinia, Oak Root Fungus and Club Root of Crucifers.

USE PRECAUTIONS

Keep children and pets out of treated areas. All NEMASOL 42% uses described on this label are intended for pre-plant soil preparation only. All plant foliage and any established plants growing on the treatment sites will be either severely damaged or destroyed.
Keep the product off of any desirable turf or plants. Do not apply within three feet of the drip line of desirable plants, shrubs or trees. Do not use in confined areas or where fumes may enter nearby dwellings. Do not use in greenhouses. Keep container tightly closed when not in use. Do not store near feed or food.
NOTE: NEMASOL 42% will suppress only those pests in the fumigation zone at the time of treatment. Reinfestation may occur subsequent to the fumigants dissipation from the soil.

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TREATMENT GUIDELINES:
For optimum results, certain procedures should be observed at designated times in the treatment program. Described below are important guidelines for each of the four stages of the treatment process.

- Pre-Application planning
- Field preparation prior to application
- Application
- Preparation for planting after application

Consult your sales representative for the appropriate treatment program for your particular needs.

PLANNING AN APPLICATION:
NEMASOL 42% is applied after harvest and 14-21 days before a new crop is planted. In some areas, fall applications are preferred as the product will dissipate over the winter which allows planting to begin as soon as favorable spring time conditions arrive.

APPLICATION RATE
Apply 30 to 75 gallons of this product per treated acre depending on crop, target pest and soil properties. Some of the soil properties to consider when determining the application rate include soil texture, percent organic matter and depth of soil to be treated.

TARGET PEST AND DEPTH OF TREATMENT
When application rates for this product are given in ranges, use the higher rate if pests (insects, nematodes, etc.) are present in high numbers or if the area to be treated has a history of pest problems. Consult with your state Nematologist, Entomologist and Plant Pathologist to determine if crop rotation is more feasible or desirable than fumigation.

NOTE: This product will only suppress pests that are in the fumigated zone at time of treatment. For control of weeds and fungi which cause seed or seedling diseases, treatment of only the top 2 to 4 inches of soil may be required. Treatment depths greater than 4 inches may be required for control of Nematodes and fungi which occur throughout the rhizosphere. The required application rate should be increased proportionately with the depth of the treatment required. Always choose the appropriate application method to evenly distribute this product throughout the soil to the required treatment depth.

SOIL CHARACTERISTICS
Soil properties to consider when determining the application rate of this product include the depth of soil to be treated, soil texture, and percent organic matter. Plant materials under the soil surface (except in the case of cover crops) should be thoroughly decomposed before application. Due to the absorbing effect of humus, soils with high levels of organic matter under the surface require higher rates. For example, muck soils require twice the rate that would be used in mineral soils. Application rates will also vary with soil texture. For instance, heavy clay soils require a higher rate than light sandy soil.

FIELD PREPARATION PRIOR TO APPLICATION
Before applying this product, always thoroughly cultivate the area to be treated, breaking up clods and loosening soil deeply and thoroughly. Then sprinkle or flood irrigate to moisten loosened soil if needed. Immediately before treatment, cultivate lightly to break up soil crust. On sandy (coarse) soils, NEMASOL 42% may be applied to crop stubble or vegetation. When compaction exists in the soil profile to be treated, use chisel or ripper to remove compaction prior to application. Apply according to methods and rates outlined in the section "MANDATORY GOOD AGRICULTURAL PRACTICES (GAPs).

APPLICATION OF NEMASOL 42%
Apply according to the methods and rates outlined below under the section "MANDATORY GOOD AGRICULTURAL PRACTICES (GAPs)".

PHYTOTOXICITY
NEMASOL 42% is phytotoxic. Protect valuable, non-target plants by stopping soil applications of this product at least 3 feet short of the drip line of trees, shrubs and other desirable plants. For sprinkler application, crop injury and lack of effectiveness, can result from nonuniform distribution of the treated water.

USE OF DILUTED NEMASOL 42%
Do not store the diluted product. Do not allow the diluted solution to stand overnight. Use the diluted solution promptly after mixing with water. Flush all equipment with water after each day's use, disassemble valves and clean carefully.

ODORS DURING OR AFTER APPLICATION

Strong odors during or after application are a signal that the fumigant is escaping and needs to be sealed in the soil. If increasingly strong odors are occurring, the application should be stopped immediately and not resumed until the source of the odor problem is identified and corrected. For sprinkler applications or whenever possible with other application methods, a water seal should be applied immediately to the treated areas of the field.

The water seal is a light application of water, repeated as necessary to prevent odor escapes. Excessive water applied as a seal will void the surface treatment.

SEALING NEMASOL 42% IN SOIL

To be most effective, NEMASOL 42% should be sealed in the soil at the time of application.

Sealing methods include applying a water seal by sprinkler irrigation, tarping (plastic, paper or fabric) or packing soil with a roller, drag or press wheel, or similar device, or cover with an adequate amount of soil to seal the fumigant into the soil. Tarpaulins should be spread loosely over the treated area and secured to prevent removal by wind. They should remain in place for at least 48 hours. If tarped, the sealed area should be cultivated to a depth of 2 inches to aerate the soil seven days after treatment. When tarpaulins are used to seal the soil, wait at least 21 days before planting.

APPLICATION IN TANK MIX WITH LIQUID FERTILIZER

NEMASOL 42% may be injected in a mixture with liquid fertilizers. Since the composition of liquid fertilizers vary considerably, the physical compatibility of each NEMASOL 42%/fertilizer tank mix should be checked by using the following procedure:

Mix a small quantity of NEMASOL 42% and liquid fertilizer in the same ratio as they will be applied to the field, i.e., if 40 gallons of NEMASOL 42% and 40 gallons of liquid fertilizer are to be applied per acre, then the mixture should be mixed in a 40:40 or 1:1 ratio. Mix in a glass container and agitate the liquids to attain a complete uniform mixture.

If a uniform mix cannot be made, the mixture should not be used. If the mixture remains uniform for 30 minutes, without agitation, the combination may be used. Should the mixture separate after 30 minutes, but is readily remixed with agitation, the mixture can be used if adequate agitation is maintained in the tank.

DO NOT PLACE CAPS ON MIX JAR AS INCOMPATIBLE MIXES MAY EVOLVE HYDROGEN SULFIDE GAS. USE PROMPTLY AFTER MIXING WITH WATER OR FERTILIZER. DO NOT ALLOW THE SOLUTION TO STAND. FLUSH ALL EQUIPMENT WITH WATER AFTER EACH DAYS USE. DISASSEMBLE VALVES AND CLEAN CAREFULLY.

PREPARATION FOR PLANTING AFTER APPLICATION OF NEMASOL 42%

Effect of Rains

If a NEMASOL 42% application is rained on less than 24 hours after treatment, lack of control at and near the soil surface may occur.

Recontamination:

Precautions must be taken to prevent recontamination of treated fields with plant pathogenic fungi, plant parasitic nematodes or weed seed. Use clean seeds or plants. Before farm equipment is driven into the treated area, it should be rinsed free of untreated soil and weed seeds from other fields.

Interval Between Treatment and Planting:

Because NEMASOL 42% is harmful to germinating seeds and living plants, an appropriate interval must be observed between treatment and planting. On well drained soils which have a light to medium texture and which are not excessively wet or cold following the application, planting can begin 14 to 21 days after treatment. If soils are heavy or especially high in organic matter or if the soils remain wet and/or cold (below 60°F) following the application, a minimum interval of 21 days or greater should be observed. The interval before planting should be extended until the soil is sufficiently dry to allow for cultivation.

Aeration of Soils Before Planting

Important: Heavier soils, including soils high in clay or organic matter should be allowed to aerate and dry thoroughly after treatment with NEMASOL 42%. During cold and/or wet weather, frequent shallow cultivation can aid dissipation of NEMASOL 42% from the treated soils.

On heavy, wet soils, light surface cultivation to break up crusting and promote drying should be done 5 to 7 days after treatment. This cultivation may be repeated as necessary. **NOTE:** To avoid reinfecting treated soils, care should be taken to assure that untreated soils are not mixed with treated soils.

Testing of Treated Soils Before Planting

Fields are fumigated to control soil-borne fungi, nematodes, insects, and weeds. The length of time required for fumigants to escape from the soil before plants can safely be planted varies greatly. Typically 14 days are needed under typical conditions, however, circumstances which do not favor volatilization (evaporation) of the fumigant can greatly lengthen the waiting period (i.e., up to 30 days). The release period is short with (1) low rates of fumigant; (2) light soil; (3) high soil temperatures; (4) low soil moisture; (5) shallow application depth and (6) repeated cultivations after

fumigation. Seeded crops are less susceptible to residual soil fumigant injury than transplanted crops. In general, fumigants escape slowly from cold, wet, heavy soils.

The information below describes two simple tests to assay for harmful, residual soil fumigants before planting.

Lettuce Seed Test

1. With a trowel dig into the treated soil to, or just below, the depth of application. Remove 2 to 4 small (1-2 oz) soil samples, mix briefly, and immediately place a portion in an air tight jar so that fumes will not escape. Use mason jars, wheat germ jars or similar jars with **gas tight lids.**
2. Sprinkle lettuce seed on the moistened surface of the soil and recap immediately. Prepare a similar jar with untreated soil (an untreated check) for comparison.
3. Place the jars at 65 to 85 degrees F in indirect sunlight (direct sunlight may kill the seed by overheating). Lettuce seed will not germinate in the dark.
4. Inspect the jars for germination in one to three days.
5. The soil is safe to plant if seed germinate as well in the treated soil as the untreated control.

NOTE

A. Be sure to sample the field properly in several areas, particularly low, wet sites.
B. Be sure that the lids are air tight, (no grit under the seal).
C. Be sure that the jars are placed in the light, (not direct sun).

Tomato Transplant Test

Transplant five to 10 succulent, fast growing tomato seedlings into fumigated beds (approximately 4-6 inches deep). Do the same in a non-fumigated area (i.e., between rows). If there is variation in the field, plant into the heaviest, wettest soils. Inspect the seedlings in two days for wilting or "root burn". If plants in the fumigated zone look the same as those outside the fumigated zone, it is safe to plant.

Which Test is Best?

Both the lettuce seed and tomato transplant tests should serve the purpose. The response of tomato seedlings vary somewhat depending on how succulent they are, the relative humidity, soil moisture and temperature. Relative differences between plants in fumigated and unfumigated areas are key to detecting low level residues. High concentrations should produce clear cut symptoms.

Lettuce seed tested in jars are not subjected to the variations in the field which can affect the response of tomato transplants. However, the process of collecting a soil sample allows some fumigant to escape prior to sealing the jar. In addition, excess soil moisture can inhibit normal lettuce seed germination reducing the sensitivity of the test.

USES, RATES AND APPLICATION METHODS
Field Application Where Entire Area is Being Treated
Soil Injection:

Apply with injectors (shanks, blades, fertilizer wheels, plows, etc.)

NEMASOL 42% may be applied using injector blades spaced no more than 6 inches apart and set to run at a depth of 6 to 14 inches in the soil. Or alternatively NEMASOL 42% may be applied using a double winged shank with spray nozzles spaced no more than 9 inches apart horizontally and spaced close enough vertically for uniform coverage. When setting up your soil injection equipment with either spray blades injection knifes or coulters make sure they are evenly and closely placed to create an even application width and depth. To accomplish this it may require multiple toolbars with the injection tools staggered. This will help prevent buildup of trash and aid in the soil sealing.

Regardless of which application method used you must use 30-75 gallons of NEMASOL 42% per acre. This application should be followed immediately by a roller/packer to smooth and compact the soil surface. When Spring applying NEMASOL 42% with injector blades such as the "Noble Plow" blade the following precautions should be followed:

- Apply all fertilizers after the NEMASOL 42% application.
- Thoroughly aerate the soil 7 days after the NEMASOL 42% application by plowing, shallow ripping or disking, or combination thereof to allow the odor to dissipate.
- Planting may take place 14-21 days after the NEMASOL 42% application provided no NEMASOL 42% odor is noticeable at the time of planting.
- If odor is noticeable at planting, rework the soil.
- If soil temperatures are below 60°F at planting, delay planting a minimum of 21 days from the day of the NEMASOL 42% application regardless of any other precautions that may have been taken.

In addition to waiting 21 days from application, set indicator plants (such as tomatoes) in various places in the treated field with a "hot cap" left undisturbed for a minimum of 24 hours to be sure all of the NEMASOL 42% has left the soil.

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METHOD OF DETERMINING FLUID OUNCES/100 FEET OF LINEAR ROW

1) Determine width of bed in feet by dividing the width of bed in inches by 12.
   Example: 5" bed = 5" divided by 12 = 0.4166 feet
2) Determine square feet in 100 linear feet of bed by multiplying the width of the bed by 100.
   Example: 0.4166 ft. x 100 ft. = 41.66 sq. ft.
3) Determine the treated acres per 100 linear feet of bed by dividing the sq. ft. by 43,560 (sq. ft. in acre).
   Example: 41.66 sq. ft. divided by 43,560 = 0.00096 acre.
4) To determine the fluid ounces per 100 linear ft.
   a) 1 gal. = 128 fl. oz; 50 gals. = 6400 fl. oz; 75 gals. = 9600 fl. oz.
   b) multiply fluid ounces by acres. Example: 50 gals. = 6400 fl. oz. x 0.00096 = 6.14 fl. oz. per 100 linear feet row.

ADDITIONAL CROP INSTRUCTIONS

SEED TREATMENT

A suitable fungicide should be used to treat all crop seed being planted into the treated soil.

PEANUTS

For suppression of Cylindrocladium Black Rot (CBR) and nematodes, apply NEMASOL 42% at the rate of 7.5 gallons per acre (6.61 fluid ounces per 100 lineral feet of row).
Use with partially resistant cultivars (NC-10C or others as designated by your local Agricultural Extension Service) in cases of severe disease pressure. Plant other varieties only in cases of light CBR pressure.

Soil Preparations:

Before applying NEMASOL 42%, all residue from the previous crop should be decomposed (enhance by fall disking) and plowed under in the Spring with a mold-board plow. Soil incorporated preplant herbicides must be applied prior to the application of NEMASOL 42%.

Application:

Apply 8 to 10 inches below seed placement with injector shank or coulter type applicator placed in front of a bedshaper to mark rows. Soil temperatures must be in the range of 60°F to 90°F at a 3 inch depth at time of treatment.

Tillage and Planting After Application

Do not mix untreated soil with treated soil by tillage or other cultural practices. Plant the peanuts in the center of the treated beds no earlier than 14 days following the application of NEMASOL 42%. At planting Nematocide treatment will be necessary in fields with heavy infestations of root knot, ring and/or Sting Nematodes.

PEPPERMINT

Verticillium Wilt: When infestation is limited to small spots in a field, the spread of Verticillium can be reduced by treating the infected spots. Apply at the rate of up to 75 gallons of NEMASOL 42% per treated acre using injector blade or thin shank injector rig. Follow directions for "FIELD APPLICATION - WHERE ENTIRE AREA IS BEING TREATED."

POTATOES

For suppression of potato pests such as Nematodes, Weed Seeds and Verticillium dahliae. (Early Maturity Disease).

SOIL INJECTION: Apply a minimum of 30 gallons per acre of NEMASOL 42%. Follow directions for FIELD APPLICATION WHERE ENTIRE AREA IS TREATED.

Sprinkler System Preplant Applications:

Apply 30 to 75 gallons of NEMASOL 42% per treated acre in sufficient water to penetrate to the desired treatment depth. Meter continuously into the irrigation system throughout the entire application period. Soil temperature should be in the range of 40°F to 90°F in the treatment zone. Soil moisture immediately prior to treatment must be 50% to 80% of field capacity down to the 24 inch level. Soil condition must facilitate even water penetration without runoff.

NOTE: 1. NEMASOL 42% may be applied where a crop stubble or vegetation exists without prior tillage, provided there is adequate penetration of the product.

NOTE: 2. NEMASOL 42% will suppress root knot nematodes in the treatment zone at the time of treatment. The treatment zone is defined as the depth of penetration that NEMASOL 42% achieves at the time of application. If high numbers or deep nematodes are identified, anticipate nematodes to build up throughout the growing season. Some damage may occur unless additional action is taken. NEMASOL 42% has no residual activity and reinfestation of a treated field can occur from numerous sources such as deep nematode populations, seed pieces, irrigation water, equipment contamination and blowing wind.

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Early Maturity Disease of Potatoes:
Apply 30 to 75 gallons NEMASOL 42% per treated acre using the soil injection or soil covering method as described in the "FIELD APPLICATION WHERE ENTIRE AREA IS BEING TREATED" section.

Sequential Application of NEMASOL 42% and Telone II
For suppression of Verticillium Dahliae, Root Knot and Lesion Nematodes in soils to be planted to Potatoes.

The following use directions provide information for a sequential treatment program of applications of Telone II soil fumigant and NEMASOL 42% soil fumigant. For best results, apply both Telone II and NEMASOL 42% in the fall. Alternative treatment schedules include a fall application of Telone II followed by a spring application of NEMASOL 42%, a fall application of NEMASOL 42% followed by a spring application of Telone II, or a spring application of both products. Due to time constraints resulting from varying weather conditions, a spring application may result in delayed planting.

Application Directions for Telone II
Soil conditions at the time of application of Telone II that allow rapid diffusion of the fumigant as a gas through the soil normally give best results. Compacted soil layers within the desired treatment zone must be fractured before or during application of the fumigant. Soil temperature must be between 40 and 80 degrees Fahrenheit at the depth of injection, moist from two inches below the soil surface to at least 12 inches deep as determined by the feel method, free of clods, and with crop residue thoroughly incorporated into the soil at least at the time of application and sealing.
Apply Telone II as a broadcast treatment at a minimum rate of 15 gallons per acre (44.3 fl. oz/1000 feet of row/outlet based on 12 inch centers) using either chisel (shank), noble (sweep) or modified ParaTill application equipment. Chisel equipment must have ripper-type shanks. ParaTill equipment must be modifed so that outlet spacing is evenly distributed under the tool bar. With chisel and ParaTill equipment, a shank spacing of 12-24 inches is recommended. Do not exceed a shank spacing of 24 inches. Outlet depth should be at least 18 inches below the final soil surface. Nobel plow outlet spacing should not exceed 12 inches and application should be made to a depth of at least 15 inches. Fumigant penetration may be limited if a plow pan exists below the depth of the noble blade. Do not use plow sole application. Immediately after application of Telone II, use a disc, paddle-wheel or similar device to uniformly mix the top 4-6 inches of soil to effectively eliminate chisel traces. Then follow immediately with a ring roller or cultipacker to seal the soil surface. Little or no crop residue should be exposed at the surface following the sealing operation. Any remaining crop residue should lie flat following sealing. Following application and sealing, leave soil undisturbed for 7-14 days. The long undisturbed interval may be necessary if the soil is or become cold or wet during this period.

APPLICATION directions for NEMASOL 42%
Soil conditions at the time of application of NEMASOL 42% must be between 40 and 90 degrees Fahrenheit in the treated zone, and at 50-85% field (moisture) capacity. If necessary, pre-irrigate about a week prior to treatment to adjust soil moisture to desired levels. Immediately before application, cultivate lightly if the soil has crusted.
Apply NEMASOL 42% either by chemigation or by soil injection or surface incorporation as a sequential application with Telone II. When NEMASOL 42% is used *prior* to Telone II, allow a minimum of 7 days between treatments. When NEMASOL 42% is applied after Telone II, allow a minimum of 7 days before disturbing the soil or beginning any pre-irrigation for the application of NEMASOL 42%.
For chemigation, apply NEMASOL 42% at the minimum rate of 30 gallons per acre in a minimum of .05 acre-inch of water to the desired depth of treatment. Heavier soils may require the higher amount of water. Use only those sprinkler systems with give large water droplets to prevent excessive fumigant loss. Do not apply when wind speed favors drift beyond the area intended for treatment or when conditions of thermal inversion exists. If for any reason chemigation is interrupted prior to completion (e.g., excessive wind, equipment malfunction, etc.,), back the system up prior to restarting to ensure full application to the area affected prior to shutting down the system and to allow full distribution of the NEMASOL 42% solution throughout the irrigation system prior to moving over untreated soil. After application is completed, flush equipment until all NEMASOL 42% is eliminated from the system. Follow all application directions described in the "General Precautions for Irrigation Systems" and "Sprinkler Chemigation System" sections in the EPA registered label for NEMASOL 42%.
For soil injection, apply NEMASOL 42% at the minimum rate of 30 gallons per acre using shanks, sweep blades or double winged shanks. Single shanks should be spaced no more than 6 inches apart with either single injection outlets no more than 6 inches deep or dual injection outlets spaced at 6 and 12 inches deep. Single sweep blades should be spaced no more than 12 inches apart with sweeps 12 inches wide and a spray nozzle that will provide broadcast coverage from sweep tip to sweep tip. Double-winged shanks should be spaced no more than 12 inches apart with no more than 9 inches between adjacent wings and with spray nozzles that provide uniform coverage. The Noble Plow blade should have spray nozzles spaced 6 inches apart to give uniform coverage, an injection depth set to 12 to 14 inches deep, and be combined with a surface application using a disk to immediately incorporate the NEMASOL 42% placed on the surface. Follow all the above applications immediately with a roller/packet to smooth and compact the soil surface.
For surface incorporation, apply NEMASOL 42% at the minimum rate of 30 gallons per acre as a broadcast application to the soil surface immediately in front of soil covering equipment such as rotary tillers, disks, etc., set to a minimum depth of 6 inches using a single-pass incorporation followed immediately by a roller/packer to smooth and compact the soil surface.

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Soil Fumigation Interval
Planting may take place only after the odors of either Telone II or NEMASOL 42% are no longer present within the zone of fumigation. If NEMASOL 42% follows Telone II and is applied in the spring with the Noble Plow blade, apply all fertilizers after the application of NEMASOL 42%. Thoroughly aerate the soil 5 to 7 days after the application of NEMASOL 42% by shallow plowing and/or disking to allow the fumigant odors to dissipate. Wait 14-21 days after the application of NEMASOL 42% before planting the crop. Use the 21-day interval if soil temperatures are below 60 degrees Fahrenheit regardless of any other precautions that may have been taken. In addition to waiting 21 days, place indicator plants (e.g., potted tomato seedlings) in various places in the treated field and cover the plants with a "hot cap", plastic sheeting, bucket, etc., to trap and confine any fumes present. Leave the plants undisturbed for a minimum of 24 hours then examine for injury before planting the crop. Do not plant the crop if injury to indicator plants is observed. If noxious fumes are noticeable at planting, rework the soil. If Telone II follows NEMASOL 42% and is applied in the spring, wait at least one week for each 10 gallons of Telone II applied beyond the initial undisturbed period before planting the crop. If fumigant odors are present at planting, thoroughly aerate the soil following shallow ripping and/or disking to allow fumigant odors to dissipate. Do not till the soil so deep as to move untreated soil from below the treated zone into the treated soil.

Simultaneous Application of NEMASOL 42% and Telone II
For suppression of Verticillium Dahliae, Root Knot and Lesion nematodes in soils to be planted to potatoes.

The following use directions provide information for a simultaneous ground application of Telone II soil fumigant and NEMASOL 42% soil fumigant. For best results, a fall application is recommended. Due to time constraints resulting from varying weather conditions, a spring application may result in delayed planting.

NOTE: When Telone II and NEMASOL 42% are applied simultaneously, the most restrictive personal protective equipment, worker notification and reentry restrictions specified on labels for each product must be followed.

Soil Conditions
Soil temperature must be between 40 and 80 degrees Fahrenheit in the treated zone.
Soil moisture in the top 12 inches should be at 50 to 85% of field capacity. Soil moisture below 12 inches should be moist as determined by the feel method. If necessary, pre-irrigate about a week prior to treatment to adjust soil moisture to the desired levels.
Application Methods and Equipment
Use a dual equipment setup to apply Telone II and NEMASOL 42% during a single pass. Calibrate equipment for simultaneous application of each product. Because of more shallow product placement and the need to disrupt chisel traces from application of Telone II, mount equipment for application of NEMASOL 42% behind that of Telone II.

Apply Telone II as a broadcast treatment at a minimum rate of 15 gallons per acre (44.3 fl. oz/1000 feet of row/outlet based on 12 inch centers) using either chisel (shank), noble (sweep) or modified ParaTill application equipment. Chisel equipment must have ripper-type shanks. ParaTill equipment must be modifed so that outlet spacing is evenly distributed under the tool bar. With chisel and ParaTill equipment, a shank spacing of 12-24 inches is recommended. Do not exceed a shank spacing of 24 inches. Outlet depth should be at least 18 inches below the final soil surface. Nobel plow outlet spacing should not exceed 12 inches and application should be made to a depth of at least 15 inches. Fumigant penetration may be limited if a plow pan exists below the depth of the noble blade. Do not use plow sole application.

For soil injection, apply NEMASOL 42% as a broadcast treatment at a minimum rate of 30 gallons per acre using shanks, sweep blades or double winged shanks. Single shanks should be spaced no more than 6 inches apart with either single injection outlets no more than 6 inches deep or dual injection outlets spaced at 6 and 12 inches deep. Single sweep blades should be spaced no more than 12 inches apart with sweeps 12 inches wide and a spray nozzle that will provide broadcast coverage from sweep tip to sweep tip. Double-winged shanks should be spaced no more than 12 inches apart with no more than 9 inches between adjacent wings and with spray nozzles that provide uniform coverage.

For surface incorporation, apply NEMASOL 42% at the minimum rate of 30 gallons per acre as a broadcast application to the soil surface immediately in front of soil covering equipment such as rotary tillers, disks, etc., set to a minimum depth of 6 inches.

Sealing the Soil After Application
Immediately after application the soil must be sealed to prevent fumigant loss and ensure that an effective concentration of fumigant is maintained within the soil. Chisel traces resulting from the Telone II application must be disrupted to a depth of at least 4 to 6 inches. This may be accomplished with the NEMASOL 42% applicator or with a disk or similar device.
As a final step to compact the soil surface and help maximize soil sealing, all above applications must be followed with a ring roller or cultipacker.

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Soil Fumigation Interval

Planting may take place only after the odors of both Telone II and NEMASOL 42% are no longer present. Following application and sealing leave the soil undisturbed for 7-10 days. The longer undisturbed interval may be necessary if the soil is or becomes cold or wet during this period. For spring applications, thoroughly aerate the soil, after the initial undisturbed interval, by shallow plowing and/or disking to allow the fumigant odors to dissipate. Allow 21 days prior to planting. In addition to waiting 21 days, place indicator plants (e.g., potted tomato seedlings) in various places in the treated field and cover the plants with a "hot cap", plastic sheeting, bucket, etc., to trap and confine any fumes present. Leave the plants undisturbed for a minimum of 24 hours then examine for injury before planting the crop. Do not plant the crop if injury to indicator plants is observed. If noxious fumes are noticeable at planting, rework the soil.

Special Considerations and Precautions

- Use of this simultaneous application program of reduced rates of Telone II and NEMASOL 42% does not guarantee pest-free potatoes at harvest.
- Use of Telone II and NEMASOL 42% according to these use directions will suppress root knot and lesion nematode populations present within the fumigated zone at the time of fumigation. The fumigated zone can vary depending upon a number of factors such as fumigant rate, application methods used, depth of fumigant application, soil moisture, soil type, soil temperature and soil tilth (including soil compaction and soil porosity). The simultaneous combination of reduced rates of Telone II and NEMASOL 42% will not suppress or prevent re-infestation subsequent to the treatment. Subsequent pest populations may infest the fumigated zone from irrigation water, equipment, potato seed and other sources of contamination, or may invade the fumigated zone from surrounding untreated soil such as from beneath the fumigated zone or from within unfumigated pockets within the fumigated zone.
- In fields with a history of severe Columbia root knot nematode problems, the maximum Federal label rate of 20 gallons of Telone II per acre is recommended in simultaneous combination with a minimum of 37.5 gallons of NEMASOL 42% per acre, per these label directions.
- With fall applications, a cover crop such as wheat or grass may be planted following the undisturbed soil interval associated with this application to reduce the potential for over winter soil erosion.
- Refer to the product labels affixed to the containers for both Telone II and NEMASOL 42% for further recommendations and precautions for optimum fumigant performance. Within the range of recommended soil conditions, product performance can be expected to improve as the soil conditions move towards optimum. Use of this simultaneous application program of Telone II and NEMASOL 42% under soil conditions outside the recommended range of soil conditions can be expected to yield less than satisfactory performance.

TREATMENT OF TREE REPLANT SITES

After removing dead or diseased trees and as much of the root system as possible, make a shallow basin over the planting site. Add NEMASOL 42% to the stream of water while filling the basin. Use 1½ pts. NEMASOL 42% per 100 sq. ft. in sufficient water (depending on soil type) to penetrate at least 6 ft. For suppression of Oak Root Fungus, use a basin at least 20 ft. square. Increase dosage to 3 pts. per 100 sq. ft. in sufficient water to penetrate to the depth of the root system. If water is tanked to the planting site, add NEMASOL 42% to the water and mix before filling the basin. Tarping of replant sites is required when near (½ mile) to populated areas such as schools, hospitals, commercial or office buildings, factories, residential areas etc. Tarping is not required if treatment is further than ½ mile from such populated areas.

FOR TREATMENT OF SPECIFIC REPLANT DISEASES (SRD) IN FRUIT ORCHARDS

NEMASOL 42% may be applied to prepared or unprepared sites as a coarse spray treatment in a band using standard tractor spray application equipment. Use 56.25 to 75 gallons of NEMASOL 42% per treated acre. Apply irrigation water while spray application is taking place and continue until enough water has been applied to drive the NEMASOL 42% to the minimum depth of two feet. Depending on the kind of pest and the treatment depth desired, apply in sufficient water to wet the soil to the desired depth of treatment. Follow guidelines for "RUNOFF OF TREATMENT SOLUTIONS" section. The soil moisture should be at 30% or higher field capacity at the time of application. Because NEMASOL 42% is harmful to living plants, an appropriate interval must be observed between soil fumigation and planting. Planting can only begin 21 days (minimum) after treatment. Harvest of any fruit within one year of treatment is prohibited.

SYMPHYLID SUPPRESSION

Soil should be in good bed condition to a depth of 8 to 10 inches. Maintain adequate soil moisture during the spring season to bring symphylids to the upper soil surface. Treat during July-August when symphylids are in the upper soil surface. Apply a minimum of 15 gallons of NEMASOL 42% per acre (0.3 pints per 100 sq. ft. of treated soil) using blade or thin blade chisel injectors spaced 5 inches apart. Inject below the level of Symphylid concentration, usually 6 to 8 inches. Pack soil immediately after the application.

TOBACCO PLANT BEDS

Fall applications are recommended whenever possible. Read and follow the use directions carefully. Treatment in the South should generally be made before November 30.

TARP METHOD - Prepare the bed 5 to 7 days before application to ensure best conditions for weed seed germination and fumigant action of NEMASOL 42%. The bed should be free of clods, level and in good tilth. Apply 30 to 75 gallons per treated acre of NEMASOL 42% in sufficient water to wet the soil to the desired depth of treatment. Apply uniformly over the entire bed. Cover the bed immediately with plastic cover. Keep covered no less than one day but no more than two days. The cover need not be tented, but should be secure to prevent wind from uncovering the treated area. Seven days after date of application, loosen the treated soil to a depth of 2 inches. Do not seed tobacco earlier than 21 days after the NEMASOL 42% application.

DRENCH METHOD - Apply 1.875 gallons of NEMASOL 42% in 150 to 200 gallons of water per 100 sq. yds. Application may be made with sprinklers, sprayers with nozzles or any suitable equipment. Follow DIRECTIONS given previously for Field Applications - Where Entire Area is Being Treated.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in a cool, dry, locked place out of reach of children. Do not store below 0°F. Product crystallizes at lower temperatures. If exposed, warm or store at higher temperatures and mix to redissolve crystals and assure uniformity before use.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of 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

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.

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

NEMASOL® 42%
EPA REG. NO. 34704-769

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.

ACCEPTED
with COMMENTS
In EPA Letter Dated
APR 30 2010
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 34704-769

FORMULATED FOR

Loveland
PRODUCTS INC.

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