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.

AMVAC METAM

A SOIL FUMIGANT SOLUTION FOR POTTING AND PLANTING SOILS AND FOR SMALL AREAS -- TO CONTROL SOIL-BORNE PESTS THAT ATTACK ORNAMENTALS, FOOD AND FIBER CROPS. MAY BE APPLIED BY SOIL INJECTION OR SOIL BEDDING EQUIPMENT TO SUPPRESS AND/OR CONTROL SOIL-BORNE PESTS IN LISTED ORNAMENTALS, FOOD AND FIBER CROPS.

For the control or suppression of Weeds, Diseases and Nematodes. Controls or Suppresses Weeds such as Annual Bluegrass, Bermudagrass, Chickweed, Dandelion, Ragweed, Henbit, Lambsquarter, Amaranthus species, Watergrass, Johnsongrass, Nutgrass, Wild Morning Glory 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)*	32.7%
OTHER INGREDIENTS:	67.3%
TOTAL:	100.0%

*Contains 3.18 lbs. active ingredient 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).

FIRST AID	
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.

EMERGENCY INFORMATION

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY:
For Medical Emergencies phone:.....1-888-681-4261
For Transportation Emergencies, including spill, leak or fire, phone: CHEMTREC..... .1-800-424-9300
For Product Use Information phone : AMVAC.....1-888-462-6822

SEE SIDE/BACK PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE.

EPA Reg. No. 5481-420
EPA Est. No. ☐ 5481-CA-1 ☐ 1448-MO-1 ☐ 61842-WA-1

Net Weight:
As Marked on Container

AMVAC
4100 E. Washington Blvd.
Los Angeles, CA 90023 U.S.A.
1-888-462-6822

TABLE OF CONTENTS

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 barrier laminate or viton $\geq$ 14 mils. For more options, follow the instructions for category H on the chemical-resistance category selection chart.

Handlers transferring or loading liquid formulations, handlers operating motorized ground equipment with open cabs, handlers repairing or inactivating irrigation 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, including handlers operating motorized ground equipment with closed cabs (except for handlers who set up and calibrate 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 respiratory protection section in the PPE requirements on this label if triggered.

All handlers who set-up and calibrate 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 an air-purifying respirator is required under this label's Directions for Use, Protection for Handlers, Respiratory Protection and/or Stop Work Triggers section, handlers must wear at minimum either:

- A NIOSH certified full facepiece air-purifying respirator equipped with an organic vapor (OV, NIOSH approval prefix TC-23C) cartridge and a particulate pre-filter (Type N, R, P, or HE, NIOSH approval number prefix TC-84A), or
- A gas mask with a canister approved for organic vapor (NIOSH approval number prefix TC-14G).

Cartridges or canisters must be replaced when odor or sensory irritation from this product becomes apparent during use, if the measured concentration of MITC is greater than 6000 ppb (6 ppm), or in the absence of any other instructions or indications of service life, at the end of each day's work period, whichever occurs first.

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.

DO NOT transport contaminated clothing inside a closed vehicle unless stored in a sealed container. Wash or dispose as specified.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to mammals, birds, aquatic invertebrates and fish. Do not apply directly to water, 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 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.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

For the entry restricted period and notification requirements, see the *Entry Restricted Period* and *Notification* sections of this labeling.

PPE For Entry During the Entry-Restricted Period: PPE for entry that is permitted by this labeling is listed in the *Personal Protective Equipment (PPE)* section of this labeling.

TERMS USED IN THIS LABELING

Soil Fumigant Training Program: Certified applicator training that provides information on (1) how to correctly apply the fumigant, including how to comply with new label requirements; (2) how to protect handlers and bystanders; (3) how to determine buffer zone distances; (4) how to complete an FMP and the post-application summary; (5) how to determine when weather and other site-specific factors are not favorable for fumigant application; (6) how to comply with required GAPs and how to document compliance with GAPs in the FMP; and (7) how to develop and implement emergency response plans.

Fumigant Safe Handling Information: Information that must be provided annually to handlers that must include the following: (1) what fumigants are and how they work, (2) safe application and handling of soil fumigants, (3) air monitoring and respiratory protection requirements for handlers, (4) early signs and symptoms of exposure, (5) appropriate steps to take to mitigate exposures, (6) what to do in case of an emergency, and (7) how to report incidents.

Application Block: Area within the perimeter of the fumigated portion of a field (including furrows, irrigation ditches, roadways). The perimeter of the application block is the border that connects the outermost edges of total area treated with the fumigant product.

Application Rate: The ratio of fumigant mass applied compared to the soil surface area (e.g., lbs of product per acre). The application rate is expressed on this labeling in terms of either the "treated area application rate" or the "broadcast equivalent application rate." The "treated area application rate" relates to only the rate of fumigant applied to the portion of the field that is fumigated (e.g., rate within the bed or strips). The "broadcast equivalent application rate" relates to the rate of fumigant applied within the entire perimeter of the application block. For bedded and strip applications, the "broadcast equivalent application rate" must be calculated to determine the buffer zone distance required by this labeling.

Start of the Application: The time at which the fumigant is first delivered/dispensed into the soil in the application block.

Application is Complete: The time at which the fumigant has stopped being delivered/dispensed into the soil and the soil has been sealed; drip lines have been purged (if applicable). For applications with water seals, the application is complete at the time at which the fumigant has stopped being delivered/dispensed into the soil.

Entry Restricted Period: This period begins at the start of the application and expires depending on the application method and if tarps are used when the tarps are perforated and removed. Entry into the application block during this period is only allowed for appropriately PPE-equipped handlers performing handling tasks. See the *Entry Restricted Period and Notification* section for additional information.

Buffer Zone: An area established around the perimeter of each application block. The buffer zone must extend outward from the edge of the application block perimeter equally in all directions.

Buffer Zone Period: Begins at the start of the application and lasts for a minimum of 48-hours after the application is complete. Non-handlers must be excluded from the buffer zone during the buffer zone period.

Difficult to Evacuate Sites: Pre-K to Grade 12 schools, state licensed daycare centers, nursing homes, assisted living facilities, hospitals, in-patient clinics, and prisons.

Owner: Any person who has a present possessory interest (fee, leasehold, rental, or other) in an agricultural establishment. A person who has both leased such agricultural establishment to another person and granted that same person the right and full authority to manage and govern the use of such agricultural establishment is not an owner. See definition of "owner" in WPS (40 CFR §170.3).

Roadway: Portion of a street or highway improved, designed or ordinarily used for vehicular travel, exclusive of the sidewalk or shoulder even if such sidewalk or shoulder is used by persons riding bicycles. In the event a highway includes two or more separated roadways, the term *roadway* shall refer to any such roadway separately.

Representative Handling Task: For air monitoring, the locations and handler activities sampled must represent each handler's exposure occurring within the application block. For example, for an application consisting of a seven-handler crew (1 tractor driver, 1 tractor co-pilot, 4 shovelers, and 1 certified applicator supervising) two breathing zone samples could be collected: one sample for the tractor co-pilot and one sample for a downwind shoveler. Results of previous sampling may indicate which tasks and locations are worst case and therefore representative of all handlers.

USE SITES

Cover crops (i.e., crops planted between periods of regular crop production to prevent soil erosion). The terminated crop must not be used for any food or feed purposes after AMVAC METAM has been applied; Crops grown solely for seed; as well as pre-plant soil uses for (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.

USE METHOD RESTRICTIONS

The use of this product is restricted to the methods described in this label.

Use in greenhouses or any other enclosed structure or confined area is prohibited. Application with handheld equipment is prohibited. Application with cement grinder and shredder equipment is prohibited. Open pour applications are prohibited. Do not apply this product through traveler or big gun application systems.

Do not apply through any irrigation system.

CERTIFIED APPLICATOR TRAINING

Any certified applicator supervising a soil fumigant application must have successfully completed one of the soil fumigant training programs listed on the following EPA website http://www.epa.gov/fumiganttraining for the active ingredient in this product. The training must be completed in the time frames listed on the website. The FMP must document the date and location where the soil fumigant training program was completed.

HANDLERS

The following activities are prohibited from being performed by anyone other than persons who have been appropriately trained and equipped as handlers in accordance with the requirements in WPS (40 CFR Part 170):

- Monitoring fumigant air concentrations;
- 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; and
- Performing any handling tasks as defined by the WPS (40 CFR 170).

The following activities are prohibited from being performed in the application block from the start of the application until the entry restricted period ends and in the buffer zone during the buffer zone period by anyone other than persons who have been appropriately trained and equipped as handlers in accordance with the requirements in WPS (40 CFR Part 170). (NOTE: persons repairing and monitoring tarps are considered handlers for the duration listed below). Prohibited activities (except for trained and equipped handlers) include:

- Participating in the application as supervisors, loaders, drivers, tractor co-pilots, shovelers, cross ditchers, or as other direct application participants;
- Installing, repairing, operating, or removing irrigation equipment;
- Performing scouting, crop advising, or monitoring tasks;
- Installing, perforating (cutting, punching, slicing, poking), or removing tarps; and
- Repairing or monitoring tarps until 14 days after application is complete if tarps are not perforated and removed during those 14 days. NOTE: see *Tarp Perforation and/or Removal* section on this labeling for requirements about when tarps are allowed to be perforated.

Handlers do not include local, state, or federal officials performing inspection, sampling, or other similar official duties.

PROTECTION FOR HANDLERS

Supervision of Handlers

For all applications, from the start of the application until the application is complete, a certified applicator must be at the application block in the line of sight of the application and must directly supervise all persons performing handling activities.

For handling activities that take place after the application is complete until the entry restricted period expires, the certified applicator is not required to be on-site, but must have communicated in a manner that can be understood by the site owner 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).

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

The certified applicator must provide **Fumigant Safe Handling Information** to each handler or confirm that within the past 12 months, each handler has received **Fumigant Safe Handling Information** in a manner that he/she can understand. **Fumigant Safe Handling Information** will be provided where this product is purchased or at http://www.epa.gov/fumiganttraining.

Exclusion of Non Handlers from Application Block and Buffer Zone

The certified applicator supervising the application and the owner of the establishment where the application 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 as stated in this labeling are:

- excluded from the application block during the entry restricted period, and
- excluded from the buffer zone during the buffer zone period (see buffer zone exemption for transit on roadways in Buffer Zone Requirements section).

Local, state, or federal officials performing inspection, sampling, or other similar official duties are not excluded from the application block or the buffer zone by this labeling. The certified applicator supervising the application and the owner of the establishment where the application is taking place are not authorized to, or responsible for, excluding those officials from the application block or the buffer zone.

Providing, Cleaning, and Maintaining PPE

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.

Air-Purifying Respirator Availability

The employer of any handler must confirm 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. At least one handler must have the appropriate air-purifying respirator and cartridges available (see *Respirator Fit Testing, Medical Qualification, and Training* section for additional requirements).

> Exception: Air-purifying respirators do not need to be made available for handlers performing fumigant site monitoring tasks outside of the buffer zone.

Respirator Fit Testing, Medical Qualification, And Training

Using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134), employers must verify that any handler who uses a respirator is:

- Fit-tested and fit-checked,
- Trained, and
- 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.

Upon request by local/state/federal/tribal enforcement personnel, employers must provide documentation demonstrating how they have complied with these requirements.

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 (except for fumigant site monitoring outside of the buffer zone) as stated in this label.

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose), then either:
  - An air-purifying respirator must be worn by all handlers who remain in the application block or surrounding buffer zone, or
  - Operations must cease and handlers not wearing an air-purifying respirator must leave the application block and surrounding buffer zone.
- Handlers can remove air-purifying 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 (0.6 ppm), 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 at the location where the irritation was first experienced.
- When using monitoring devices to monitor air concentration levels, a direct read detection device, such as an electronic device or a colorimetric device (e.g., Draeger, Sensidyne) must be used. The devices must have sensitivity of at least 600 ppb (0.6 ppm) for MITC. Persons using direct read detection devices must follow the manufacturer's directions.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a 10 inch radius of the handler's nose and mouth.
- When air-purifying respirators are worn, 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 sensory irritation when wearing an air-purifying respirator, or (2) a MITC air sample is greater than or equal to 6,000 ppb (6 ppm), then all handler activities must cease and handlers must be removed from the application block and surrounding buffer zone.
- Handlers can resume work activities without air-purifying respirators 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 (0.6 ppm), 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 at the location where the irritation was first experienced or where sample(s) were greater than or equal to 6,000 ppb (6 ppm).
- Handlers can resume work activities if all of the following conditions exist provided that the appropriate air- purifying respirator is worn:
  - two consecutive breathing zone samples for MITC taken at the handling site at least 15 minutes apart must be less than 6,000 ppb (6 ppm),
  - handlers do not experience sensory irritation while wearing an air-purifying, and
  - filter cartridges/canisters have been changed.
  - During the collection of air samples an air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken at the location where the irritation was first experienced or where sample(s) were greater than or equal to 6,000 ppb (6 ppm).

TARP PERFORATION AND/OR REMOVAL

IMPORTANT: Persons perforating, repairing, removing, and/or monitoring tarps are defined, within certain time limitations, as handlers (see *Handlers* section), and they 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 application is complete, unless a weather condition exists which necessitates early tarp perforation or removal (see *Early*

Tarp Removal for Broadcast Applications Only and *Early Tarp Perforation during Flood Prevention Activities for Bedded Applications Only* requirements).

- If tarps are perforated within 14 days after the application is complete, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps are perforated but not removed within 14 days after the application is complete, planting or transplanting must not begin until at least 48 hours after the tarp perforation is complete.
- If tarps are not perforated or removed within 14 days after the application is complete, planting or transplanting may take place while the tarps are being perforated.
- Each tarp panel used for broadcast fumigation must be perforated.
- Tarps may be perforated manually ONLY for the following situations:
    - 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.
    - In fields that are 1 acre or less.
    - 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:
    - 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.
- Early Tarp Perforation during Flood Prevention Activities for Bedded Applications Only:
    - Tarp perforation is allowed before the 5 days (120 hours) have elapsed.
    - Tarps must be immediately retucked and packed after soil removal.

ENTRY RESTRICTED PERIOD

Entry into the application block (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 the application is complete if tarps are not perforated and removed for at least 14 days after the application is complete, or
- 48 hours after tarp perforation is complete if tarps will be perforated within 14 days after the application is complete and will not be removed for at least 14 days after the application is complete, or
- tarp removal is completed if tarps are both perforated and removed less than 14 days after the application is complete.

NOTES:

- See *Tarp Perforation and/or Removal* section on this labeling for requirements about when tarps are allowed to be perforated.
- If early tarp removal occurs for a broadcast application the entry restricted period is a minimum of 5 days after the application is complete.
- When listing application information for soil fumigant applications to comply with part 170.122 of the WPS, list the entry restricted period time frame in place of the REI.

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 Fumigant in USE

- "the date and time of fumigation,
- the date and time entry restricted period is over,
- "AMVAC METAM", 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, text size, and sign size (40 CFR §170.120).

Post Fumigant Treated Area signs at all entrances to the application block no sooner than 24 hours prior to application.

Fumigant Treated Area signs must remain posted for no less than the duration of the entry restricted period. Fumigant Treated Area signs must be removed within 3 days after the end of the entry restricted period.

MANDATORY GOOD AGRICULTURAL PRACTICES (GAPs)

The following GAPs must be followed during all fumigant applications.

Shank Applications

Weather Conditions

- To determine if unfavorable weather conditions exist or are predicted (see Identifying Unfavorable Weather Conditions section) and whether an application should proceed, the National Weather Service weather forecast must be checked by the certified applicator supervising the application:
  - on the day of, but prior to the start of the application, and
  - on a daily basis during the application if the time period from the start of the application until the application is complete is greater than 24 hours.
- Do not apply if an air stagnation advisory issued by the National Weather Service is in effect for the area in which the application is planned, during the application, or the 48 hours after the application is complete.
- Do not apply if light wind conditions (< 2 mph) are forecast to persist for more than 18 consecutive hours from the time the application starts until 48 hours after the application is complete.
- Detailed National Weather Service forecasts for local weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov, on NOAA weather radio, or by contacting 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 within an hour prior to sunset and continue past sunrise and may 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, free of large clods, and tilled at a minimum to the depth of the treatment zone. 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.
- 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 or more of the following methods:

- Compaction with a bed-shaper, roller, press wheel, coil packer, ring packer, or similar device, OR
- Covering the treated soil with 3-6 inches of untreated soil, OR
- Applying a minimum of a 1/4-inch of water beginning immediately after application begins and completing the water treatment within four hours, OR
- Covering treated area with a tarp.

Tarps (when tarps are used in AMVAC METAM applications)

- A written tarp plan must be developed and included in the FMP.
- Once a tarp is perforated, the application is no longer considered tarped.
- Tarps must be installed immediately after the fumigant is applied to the soil.

Soil Temperature

- At the beginning of the application, the soil temperature at the injection depth must be between 35° and 90°F.
- If air temperatures have been above 100°F in any of the three days prior to application, then soil temperature must be measured and recorded in the FMP. Record temperature measurements at the application depth or 12 inches, whichever is shallower.

Soil Moisture

- The soil moisture in the top six inches of soil must be between 60% to 80% of available water capacity immediately prior to the application, subject to the exception below.

- EXCEPTION: In areas where soil moisture must exceed available water capacity to form a bed *(e.g.,* certain regions in Florida), soil moisture content may exceed 80%.

- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is between 60% to 80% available water capacity immediately prior to the application, the USDA Feel and Appearance Method test may be used to estimate whether the 60% to 80% soil moisture content requirement is met:

  For **coarse** textured soils (fine sand and loamy fine sand), there must be enough moisture (50% to 75% of available water capacity) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.

  For **moderately coarse** textured soils (sandy loam and fine sandy loam), there must be enough moisture (50% to 75% of available water capacity) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.

  For **medium** textured soils (sandy clay loam, loam, and silt loam), there must be enough moisture (50% to 75% of available water capacity) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.

  For **fine** textured soils (clay, clay loam, and silty clay loam), there must be enough moisture (50% to 75% of available water capacity) 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 conservationist 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, tillage should be done as close to the time of application as possible.

Application and Equipment Considerations

- Do not apply or allow fumigant to spill onto the soil surface. Injectors must be below the soil surface before product flow begins. Each injection line must 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.

- Dry disconnect couplings (closed transfer system) must be installed on tanks and transfer hoses.

- Sight gauges and pressure gauges must be properly functioning.

- 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 driver 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 ensure the proper amount of fumigant is applied.

- Valves (e.g., backflow, shut-off), vacuum relief valves, and low pressure drains must be in place, operational, and leak free.

- 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:

- Check the filter, and clean or replace the filter element as required.
- Check all tubes and chisels/shanks to make sure they are free of debris and obstructions.
- Check and clean the orifice plates.

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

Weather Conditions

- To determine if unfavorable weather conditions exist or are predicted (see Identifying Unfavorable Weather Conditions section) and whether application should proceed, the National Weather Service weather forecast must be checked by the certified applicator supervising the application:
  - on the day of, but prior to the start of the application, and
  - on a daily basis during the application if the time period from the start of the application until the application is complete is greater than 24 hours.
- Do not apply if an air stagnation advisory issued by the National Weather Service is in effect for the area in which the application is planned, during the application, or the 48 hours after the application is complete.
- Do not apply if light wind conditions (< 2 mph) are forecast to persist for more than 18 consecutive hours from the time the application starts until 48 hours after the application is complete.
- Detailed National Weather Service forecasts for local weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: http://www.nws.noaa.gov, on NOAA weather radio, or by contacting 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, free of large clods, and tilled at a minimum to the depth of the treatment zone. 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.
- 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.

Apply 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 or more of the following methods:

- Compaction with a bed-shaper, roller, press wheel, coil packer, ring packer, or similar device, OR
- Covering the treated soil with 3-6 inches of untreated soil, OR
- Applying a minimum of a 1/4-inch of water beginning immediately after application begins and completing the water treatment within four hours, OR
- Covering treated area with a tarp.

Tarps (when tarps are used in applications)

- A written tarp plan must be developed and included in the FMP.
- Once a tarp is perforated, the application is no longer considered tarped.

Soil Temperature

- At the beginning of the application, the soil temperature at the injection depth must be between 35° and 90°F.
- If air temperatures have been above 100°F in any of the three days prior to application, then soil temperature must be measured and recorded in the FMP. Record temperature measurements at the application depth or 12 inches, whichever is shallower.

Soil Moisture

- The soil moisture in the top six inches of soil must be between 60% to 80% of available water capacity immediately prior to the application, subject to the exception below.

- EXCEPTION: In areas where soil moisture must exceed available water capacity to form a bed *(e.g.,* certain regions in Florida), soil moisture content may exceed 80%.

- If appropriate measuring equipment is not used to determine whether the soil moisture in the top six inches of soil is between 60% to 80% available water capacity immediately prior to the application, the USDA Feel and Appearance Method test may be used to estimate whether the 60% to 80% soil moisture content requirement is met:

  For **coarse** textured soils (fine sand and loamy fine sand), there must be enough moisture (50% to 75% of available water capacity) to form a weak ball with loose and clustered sand grains on fingers, darkened color, moderate water staining on fingers, will not ribbon.

  For **moderately coarse** textured soils (sandy loam and fine sandy loam), there must be enough moisture (50% to 75% of available water capacity) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.

  For **medium** textured soils (sandy clay loam, loam, and silt loam), there must be enough moisture (50% to 75% of available water capacity) to form a ball, very light staining on fingers, darkened color, pliable, and forms a weak ribbon between the thumb and forefinger.

  For **fine** textured soils (clay, clay loam, and silty clay loam), there must be enough moisture (50% to 75% of available water capacity) 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 conservationist 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, 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.
- Dry disconnect couplings (closed transfer system) must be installed on all tanks and transfer hoses.
- Sight gauges and pressure gauges must be properly functioning.
- 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 driver 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:
  - Check the filter, and clean or replace the filter element as required.
  - Check all tubes and chisels to make sure they are free of debris and obstructions.
  - Check and clean the orifice plates.

Rotary Tiller Applications

Weather Conditions

- To determine if unfavorable weather conditions exist or are predicted (see Identifying Unfavorable Weather Conditions section) and whether application should proceed, the National Weather Service weather forecast must be checked by the certified applicator supervising the application:
  - on the day of, but prior to the start of the application, and
  - on a daily basis during the application if the time period from the start of the application until the application is complete is greater than 24 hours.
- Do not apply if an air stagnation advisory issued by the National Weather Service is in effect for the area in which the application is planned, during the application, or the 48 hours after the application is complete.
- Do not apply if light wind conditions (< 2 mph) are forecast to persist for more than 18 consecutive hours from the time the application starts until 48 hours after the application is complete.
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- 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 or more of the following methods:

- Compaction with a bed-shaper, roller, press wheel , coil packer, ring packer, or similar device, OR
- Covering the treated soil with 3-6 inches of untreated soil, OR
- Applying a minimum of a 1/4-inch of water beginning immediately after application begins and completing the water treatment within four hours, OR
- Covering treated area with a tarp.

Tarps (when tarps are used in applications)

- A written tarp plan must be developed and included in the FMP.
- Once a tarp is perforated, the application is no longer considered tarped.

Soil Temperature

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- If air temperatures have been above 100°F in any of the three days prior to application, then soil temperature must be measured and recorded in the FMP. Record temperature measurements at the application depth or 12 inches, whichever is shallower.

Soil Moisture

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(50% to 75% of available water capacity) to form a ball with defined finger marks, very light soil/water staining on fingers, darkened color will not stick.

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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 conservationist 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 soil moisture, 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.
- Dry disconnect couplings (closed transfer system) must be installed on all tanks and transfer hoses.
- 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 properly functioning.
- 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 driver 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:
  - Check the filter, and clean or replace the filter element as required.
  - Check all tubes and chisels shanks to make sure they are free of debris and obstructions.
  - Check and clean the orifice plates.

MAXIMUM APPLICATION RATES FOR PRE-PLANT SOIL FUMIGATION

Maximum application rate is 320 lbs ai/A (100.6 gallons per treated acre).

CALCULATING THE BROADCAST EQUIVALENT APPLICATION RATE

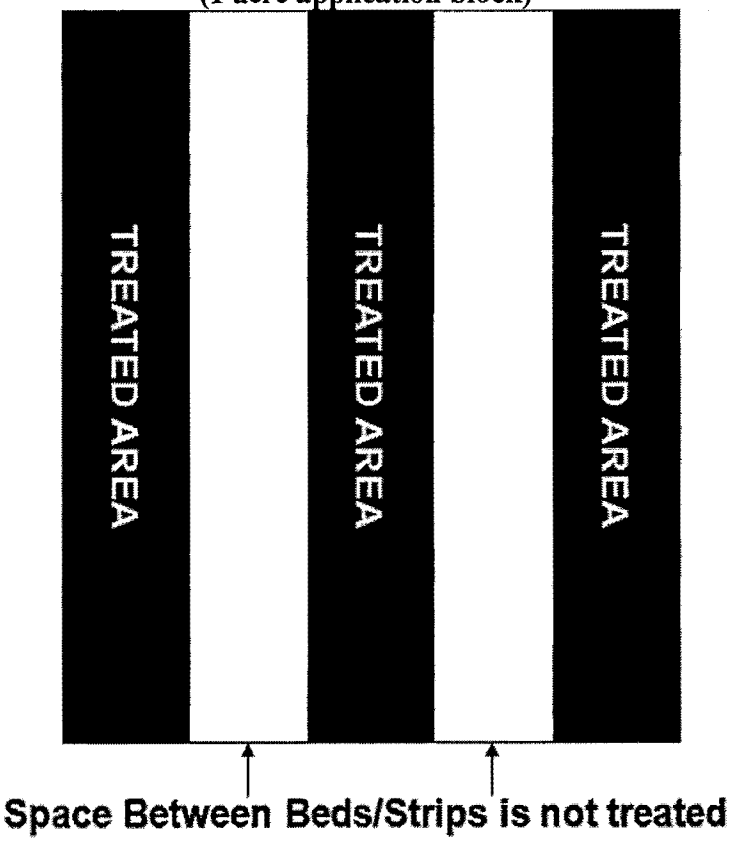
To calculate the broadcast equivalent rate for bedded or strip applications the following information is needed:

- Gallons of product per treated acre
- strip or bed bottom width (inches)
- center-to-center row spacing (inches)
- application block size (acres)

Gallons of product **per treated acre** is the ratio of total amount of product applied to the size of the **total area treated** (e.g., the rate of product applied in the bed). For bedded or strip applications, the **total area treated** is the summation of the area (i.e., length x width) of each treated bed bottom or strip that is located within the application block as shown by the black areas in Figure 1 (e.g., black areas are 0.6A or 60% of the area within the application block). The area of the space between the beds/strips is not factored in the total area treated.

The **application block size** is the acreage within the perimeter of the fumigated portion of a field (including furrows, irrigation ditches, roadways). The perimeter of the application block is the border that connects the outermost edges of total area treated with the fumigant product.

Figure 1. Bedded/Strip Application (1 acre application block)

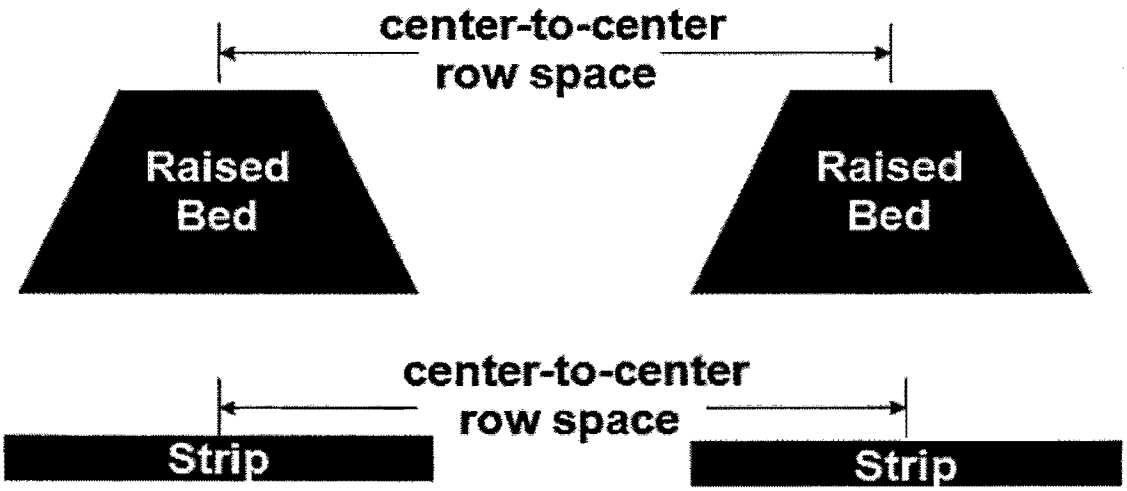


The "broadcast equivalent rate" must be calculated with the following formula:

$$\textbf{Broadcast equivalent rate (gallons product/acre)} = \frac{\textbf{strip or bed bottom width (inches)}}{\textbf{center-to-center row spacing (inches)}} \times \textbf{gallons of product/ treated acre applied in the strip or bed}$$

- The bed width must be measured from the bottom of the bed.
- The center-to-center row spacing must be calculated as shown in Figure 2.
- If there are any ditches, waterways, drive rows and other areas that are not fumigated that are in the application block, multiply the above broadcast equivalent equation by **(total area of strips or beds + row spacing)/(application block size).** A sample calculation is provided below.

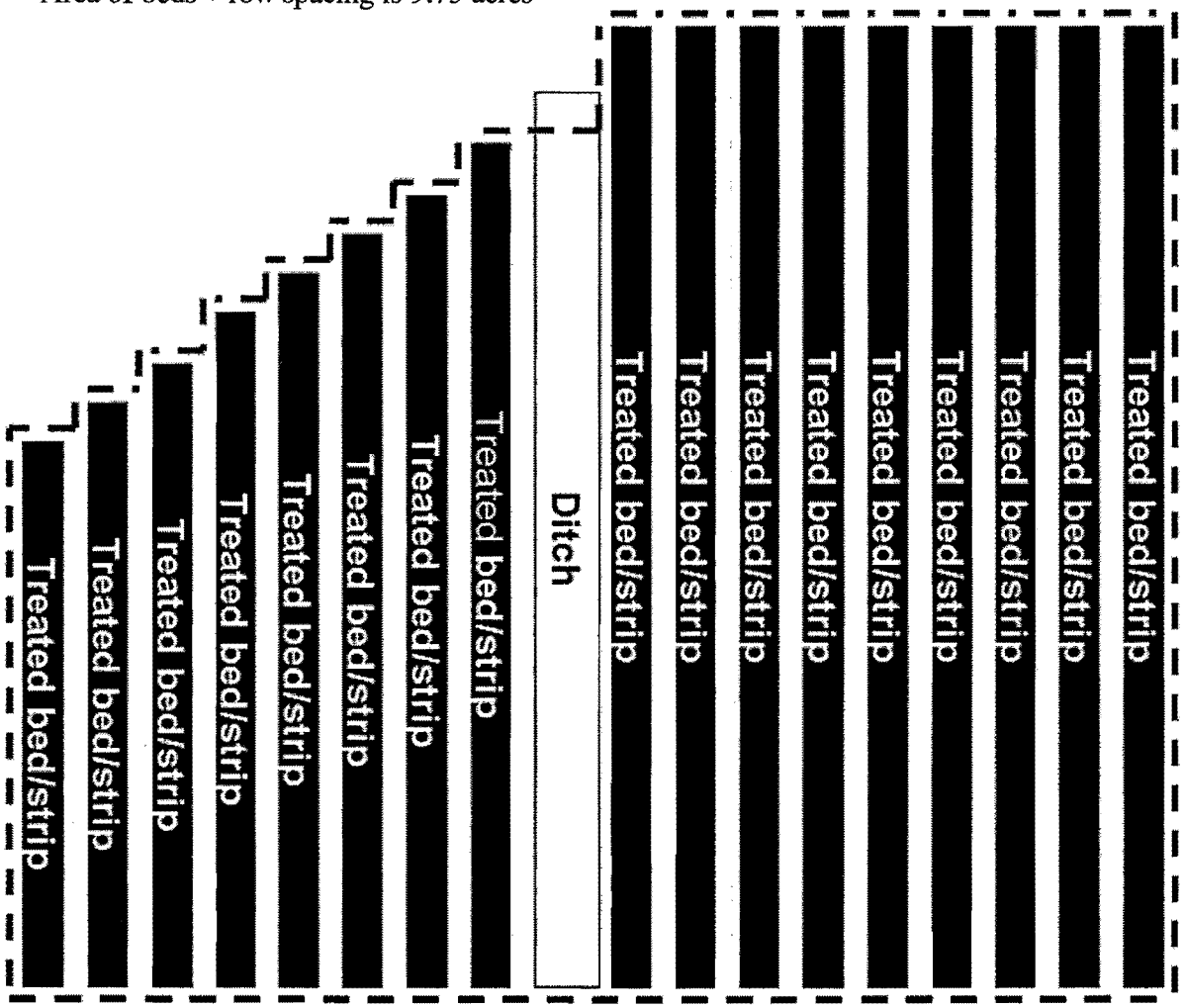
Figure 2. Center Row Spacing



Sample broadcast equivalent rate calculation

Assumptions:

- Application method is shank bedded
- Bed width is 30 inches (measured at the bottom of bed)
- Center-to-center row spacing is 60 inches
- 200 pounds of product per treated acre is applied in the beds
- Total application block size is 10 acres
- Ditch in the middle of application block is 0.25 acres
- Area of beds + row spacing is 9.75 acres



$$\text{broadcast equivalent rate (pounds product/acre)} = \frac{\text{strip or bed bottom width (inches)}}{\text{center-to-center row spacing (inches)}} \times \frac{\text{area of strips or beds + row spacing}}{\text{application block size}} \times \text{pounds product/ treated acre applied in the bed}$$

$$= \frac{\text{30 inch width beds}}{\text{60 inch row spacing}} \times \frac{\text{9.75 acres}}{\text{10 acres}} \times \text{200 pounds product/ treated acre}$$

$$= \text{97.5 pounds product/acre}$$

BUFFER ZONE REQUIREMENTS

A buffer zone must be established for every fumigant application. The following describes the general buffer zone requirements:

- An area established around the perimeter of each application block. The buffer zone must extend outward from the edge of the application block perimeter equally in all directions.
- All non-handlers, including field workers, residents, pedestrians, and other bystanders, must be excluded from the buffer zone during the buffer zone period except for transit (see *Buffer Zone Exemptions for Transit on Roadways*).
    - Local, state, or federal officials performing inspection, sampling, or other similar official duties are not excluded from the application block or the buffer zone by this labeling. The certified applicator supervising the application and the owner of the establishment where the application is taking place are not authorized to, or responsible for, excluding those officials from the application block or the buffer zone.
- The buffer zone period begins at the start of the application and lasts for a minimum of 48-hours after the application is complete.

Buffer Zone Proximity

- Before the start of application, the certified applicator must determine whether their buffer zone will overlap any metam sodium or metam potassium (or other MITC generating pesticides) buffer zone(s).
- To reduce the potential for off-site movement from multiple fumigated fields, buffer zones from multiple metam sodium or metam potassium (or other MITC generating pesticides) application blocks must not overlap UNLESS:
    1. A minimum of 12 hours have elapsed from the time the earlier application(s) is complete until the start of the later application, and
    2. *Fumigant Site Monitoring* or *Response Information for Neighbors* have been implemented if there are any residences or businesses within 300 feet of any of the buffer zones.

Structures Under The Control Of The Owner Of The Application Block

- Buffer zones must not include buildings used for storage (e.g., sheds, barns, garages), UNLESS:
    - The storage buildings are not occupied during the buffer zone period, and
    - The storage buildings do not share a common wall with an occupied structure.

Areas Not Under The Control Of The Owner Of The Application Block

- Buffer zones must not include residential areas (e.g., employee housing, private property), buildings (e.g., commercial, industrial), outdoor residential areas (e.g., lawns, gardens, play areas) and other areas that people may occupy, UNLESS:
    1. The occupants provide written agreement, prior to the start of the application, that they will voluntarily vacate the buffer zone during the entire buffer zone period, and
    2. Reentry by occupants and other non-handlers must not occur until,
        - The buffer zone period has ended, and
        - Sensory irritation is not experienced upon re-entry.

- Buffer zones must not include agricultural areas owned and/or operated by persons other than the owner of the application block, UNLESS:
    1. The owner of the application block can ensure that the buffer zone will not overlap with a metam sodium or metam potassium (or other MITC generating pesticides) buffer zone from any other property owners, except as provided in the *Buffer Zone Proximity* section, and
    2. The owner of the other property provides written agreement to the applicator that they, their employees, and other persons will stay out of the buffer zone during the entire buffer zone period.

- Buffer zones must not include roadways and rights of way UNLESS:
    1. The area is not occupied during the buffer zone period, and
    2. Entry by non-handlers is prohibited during the buffer zone period.

    Buffer Zone Exemptions for Transit on Roadways

    Vehicular and bicycle traffic on public and private roadways through the buffer zone is permitted.

(NOTE: Buffer zones are not permitted to include bus stops or other locations where persons wait for public transit.)

- For all other publicly owned and/or operated areas such as parks, sidewalks, permanent walking paths, playgrounds, and athletic fields, buffer zones must not include these areas UNLESS:
    1. The area is not occupied during the buffer zone period,
    2. Entry by non-handlers is prohibited during the buffer zone period, and
    3. Written permission to include the public area in the buffer zone is granted by the appropriate state and/or local authorities responsible for management and operation of the area.

Certified applicators must comply with all local laws and regulations. See the *Posting* section for additional requirements that may apply.

BUFFER ZONE DISTANCES

Buffer zone distances must be calculated using the application rate and the size of the application block.

- Buffer zone distances must be based on look-up tables in this labeling (25 feet is the minimum distance regardless of site-specific application parameters).
- If after applying all applicable buffer zone credits the buffer zone is greater than ½ mile (2,640 ft), then the application is prohibited.
- Tables 1-4 as appropriate for the method of application must be used to determine the minimum buffer distances. Round up to the nearest rate and block size, where applicable. Applications are prohibited for rates or block sizes that exceed what is presented in the buffer zone tables.

Buffer Zone Tables

Table 1. Shank Injection Application - Broadcast Buffer Zone Distances in Feet

Application Block Size (acres)

Broadcast Equivalent Application Rate (Gallons product/A)

Gal/A	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	120	140	160
8	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
9	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
11	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
13	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
14	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
16	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
17	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
19	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35
20	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	31	36
22	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	28	33	38
24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	36	41
25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	33	38	43
27	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	27	35	40	46
28	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27	28	37	43	49
30	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27	29	30	39	45	51
31	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	28	30	31	41	47	54
33	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	30	32	33	43	50	57
35	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	28	31	33	34	45	52	60
36	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	29	32	35	36	47	55	62
38	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	30	34	36	38	49	57	65
39	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	27	31	35	38	39	51	59	68
41	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27	28	33	37	39	41	53	62	70
42	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	28	30	34	38	41	42	55	64	73
44	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	29	31	35	39	42	44	57	66	76
46	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	27	30	32	36	41	44	45	59	69	79
47	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	27	28	31	33	38	42	45	47	61	71	81
49	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	27	28	29	32	34	39	44	47	48	63	73	84
50	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27	28	29	30	33	35	40	45	48	50	65	76	87
52	25	25	25	25	25	25	25	25	25	25	25	25	26	28	29	30	31	34	37	42	47	51	53	69	81	92
53	25	25	25	25	25	25	25	25	25	25	25	25	27	29	30	31	32	35	40	45	50	53	56	73	85	97
55	25	25	25	25	25	25	25	25	25	25	25	25	27	30	31	32	33	38	42	47	52	56	59	77	90	103
57	25	25	25	25	25	25	25	25	25	25	25	25	28	30	32	33	34	37	44	49	54	58	62	81	95	108
58	25	25	25	25	25	25	25	25	25	25	25	25	29	31	32	34	35	38	47	52	57	61	65	85	99	113
60	25	25	25	25	25	25	25	25	25	25	25	25	30	32	33	34	36	39	49	54	59	63	68	89	104	119
61	25	25	25	25	25	25	25	25	25	25	25	25	30	33	34	35	37	40	51	56	61	66	71	93	109	124
63	25	25	25	25	25	25	25	25	25	25	25	25	31	34	35	36	38	41	53	58	63	68	74	97	113	129
64	25	25	25	25	25	25	25	25	25	25	25	26	32	35	36	37	38	42	56	61	66	71	77	101	118	135
66	25	25	25	25	25	25	25	25	25	25	25	26	33	35	37	38	39	43	58	63	68	73	80	105	123	140
68	25	25	25	25	25	25	25	25	25	25	25	27	34	38	38	39	40	44	60	65	70	76	83	109	127	145
69	25	25	25	25	25	25	25	25	25	25	25	28	34	37	39	40	41	45	63	68	73	78	86	113	132	151
71	25	25	25	25	25	25	25	25	25	25	25	28	35	38	39	41	42	46	65	70	75	81	89	117	137	156
72	25	25	25	25	25	25	25	25	25	25	25	29	36	39	40	42	43	47	67	72	77	83	92	121	141	161
74	25	25	25	25	25	25	25	25	25	25	25	29	37	40	41	43	44	48	70	75	80	86	95	125	146	167
75	25	25	25	25	25	25	25	25	25	25	25	30	38	41	42	44	45	50	72	77	82	88	98	129	151	172
77	25	25	25	25	25	25	25	25	25	25	26	31	38	41	43	44	46	51	74	79	84	91	101	133	155	177
79	25	25	25	25	25	25	25	25	25	25	26	31	39	42	44	45	47	52	76	81	86	93	104	137	160	183
80	25	25	25	25	25	25	25	25	25	25	27	32	40	43	45	46	48	53	79	84	89	96	107	141	165	188
82	25	25	25	25	25	25	25	25	25	25	27	33	41	44	46	47	49	54	81	86	91	98	110	145	169	193
83	25	25	25	25	25	25	25	25	25	25	28	33	41	45	46	48	50	55	83	88	93	101	113	149	174	199
85	25	25	25	25	25	25	25	25	25	26	28	34	42	46	47	49	51	56	86	91	96	103	116	153	179	204
86	25	25	25	25	25	25	25	25	26	29	34	43	46	46	50	52	57	88	93	98	105	119	157	183	209
88	25	25	25	25	25	25	25	25	27	29	35	44	47	49	51	53	58	90	95	100	115	130	164	191	219
90	25	25	25	25	25	25	25	25	27	30	36	45	48	50	52	53	59	92	97	102	117	132	167	195	223
91	25	25	25	25	25	25	25	26	28	30	36	45	49	51	53	54	60	93	98	104	119	135	170	198	226
93	25	25	25	25	25	25	25	26	28	31	37	46	50	52	53	55	61	95	100	105	121	137	173	202	230
94	25	25	25	25	25	25	25	27	29	31	38	47	51	53	54	56	62	96	102	107	123	139	176	205	234
96	25	25	25	25	25	25	25	27	29	32	38	48	51	53	55	57	63	98	103	109	125	142	179	208	238
97	25	25	25	25	25	25	26	28	30	32	39	48	52	54	56	58	64	100	105	111	127	144	182	212	242
99	25	25	25	25	25	25	26	28	30	33	39	49	53	55	57	59	65	101	107	113	129	146	185	215	246
100.6	25	25	25	25	25	25	27	29	31	33	40	50	54	56	58	60	66	103	109	114	131	149	187	219	250

Table 2. Shank Injection Application - Broadcast with Water Seal Buffer Zone Distances in Feet

Application Block Size (acres)

Broadcast Equivalent Application Rate (Gallons product/A)

Gal/A	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	120	140	160
8	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
9	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
11	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
13	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
14	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
16	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
17	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
19	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
20	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
22	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
27	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
28	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
30	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
31	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
33	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
35	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
36	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
38	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
39	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
41	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
42	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
44	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
46	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
47	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
49	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
50	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
52	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
53	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
55	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
57	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
58	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
60	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
61	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
63	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
64	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
66	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
68	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
69	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
71	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
72	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
74	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
75	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
77	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
79	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
80	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
82	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
83	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
85	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
86	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
88	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
90	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
91	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
93	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
94	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
96	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
97	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
99	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
100.6	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

Apply at least 0.25 inches of water immediately after application.

Table 3. Shank Injection Application - Bedded Buffer Zone Distances in Feet

Application Block Size (acres)

Broadcast Equivalent Application Rate (Gallons product/A)	Gal/A	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	140	160
	24	25	25	25	25	25	25	25	25	25	25	25	25	50	75	100	125	150	175	213	250	288	325	350	375	438	500
	25	25	25	25	25	25	25	25	25	25	25	25	50	75	100	125	150	175	200	238	275	313	350	375	400	467	533
	27	25	25	25	25	25	26	28	29	30	31	44	75	100	125	150	175	206	238	274	311	352	393	421	450	525	600
	28	25	25	25	25	25	27	30	32	35	38	63	100	125	150	175	200	238	275	311	348	391	435	466	500	583	667
	30	25	25	25	25	25	29	32	36	40	44	81	125	150	175	200	225	250	289	313	348	384	431	478	514	550	642	733
	31	25	25	25	25	25	30	35	40	45	50	100	150	175	200	225	250	300	350	385	420	470	520	560	600	700	800
	33	25	25	25	31	38	45	53	60	68	75	125	175	206	238	263	288	338	388	426	465	515	565	608	650	758	867
	35	25	25	30	40	50	60	70	80	90	100	150	200	238	275	300	325	375	425	468	510	560	610	655	700	817	933
	36	25	25	38	50	63	75	88	100	113	125	175	225	269	313	338	363	413	463	509	555	605	655	703	750	875	1000
	38	25	30	45	60	75	90	105	120	135	150	200	250	300	350	375	400	450	500	550	600	650	700	750	800	933	1067
	39	28	43	58	73	88	103	118	133	148	163	213	263	313	363	388	413	475	538	594	650	700	750	800	850	992	1133
	41	40	55	70	85	100	115	130	145	160	175	225	275	325	375	400	425	500	575	638	700	750	800	850	900	1050	1200
	42	53	68	83	98	113	128	143	158	173	188	238	288	338	388	413	438	525	613	681	750	800	850	900	950	1108	1267
	44	65	80	95	110	125	140	155	170	185	200	250	300	350	400	425	450	550	650	725	800	850	900	950	1000	1167	1333
	46	71	86	101	116	131	146	161	176	191	206	263	319	425	413	450	488	581	675	753	831	884	938	1000	1063	1240	1417
	47	78	93	108	123	138	153	168	183	198	213	275	325	450	425	475	525	613	700	781	863	919	975	1050	1125	1313	1500
	49	84	99	114	129	144	159	174	189	204	219	288	338	475	438	500	563	644	725	809	894	953	1013	1100	1188	1385	1583
	50	90	105	120	135	150	165	180	195	210	225	300	350	400	450	525	600	675	750	838	925	988	1050	1150	1250	1458	1667
	52	93	108	124	139	155	170	186	201	217	232	309	361	413	464	541	619	696	773	864	954	1018	1083	1186	1289	1504	1719
	53	98	112	128	143	159	175	191	207	223	239	319	372	425	478	558	638	717	797	890	983	1049	1116	1222	1328	1549	1771
	55	98	115	131	148	164	180	197	213	230	246	328	383	438	492	574	656	738	820	916	1012	1080	1148	1258	1367	1595	1823
	57	101	118	135	152	169	186	203	219	236	253	338	394	450	506	591	675	759	844	942	1041	1111	1181	1294	1406	1641	1875
	58	104	121	139	156	173	191	208	225	243	260	347	405	463	520	607	694	780	867	968	1070	1142	1214	1330	1445	1686	1927
	60	107	125	143	160	178	196	214	232	249	267	356	416	475	534	623	713	802	891	995	1098	1173	1247	1366	1484	1732	1979
	61	110	128	146	165	183	201	219	238	256	274	366	427	488	548	640	731	823	914	1021	1127	1204	1280	1402	1523	1777	2031
	63	113	131	150	169	188	206	225	244	263	281	375	438	500	563	656	750	844	938	1047	1156	1234	1313	1438	1563	1823	2083
	64	115	135	154	173	192	211	231	250	269	288	384	448	513	577	673	769	865	961	1073	1185	1265	1345	1473	1602	1868	2135
	66	118	138	158	177	197	217	236	256	276	295	394	459	525	591	689	788	886	984	1099	1214	1296	1378	1509	1641	1914	2188
	68	121	141	161	181	202	222	242	262	282	302	403	470	538	605	705	806	907	1008	1125	1243	1327	1411	1545	1680	1960	2240
	69	124	144	165	186	206	227	248	268	289	309	413	481	550	619	722	825	928	1031	1152	1272	1358	1444	1581	1719	2005	2292
	71	127	148	169	190	211	232	253	274	295	316	422	492	563	633	738	844	949	1055	1178	1301	1389	1477	1617	1758	2051	2344
	72	129	151	173	194	216	237	259	280	302	323	431	503	575	647	753	863	970	1078	1204	1330	1420	1509	1653	1797	2096	2396
	74	132	154	176	198	220	242	264	286	308	330	441	514	588	661	771	881	991	1102	1230	1359	1450	1542	1689	1836	2142	2448
	75	135	158	180	203	225	248	270	293	315	338	450	525	600	675	788	900	1013	1125	1256	1388	1481	1575	1725	1875	2188	2500

Table 4. Rotary Tiller and Spray Blade Applications Buffer Zone Distance in Feet

Broadcast Equivalent Application Rate (Gallons product/A)	Application Block Size (acres)													
Gal/A	1	5	6	7	8	9	10	20	30	40	50	60	70	80
10	25	25	25	25	25	25	25	25	25	25	25	25	25	25
18	25	25	25	25	25	25	25	25	25	25	25	25	25	25
25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
31	25	25	25	25	25	25	25	25	25	25	25	25	25	25
38	25	25	25	25	25	25	25	25	25	25	25	25	25	25
44	25	25	25	25	25	25	25	25	25	25	25	25	25	25
50	25	25	25	25	25	25	25	25	25	25	25	25	25	25
57	25	25	25	25	25	25	25	25	25	25	42	57	64	72
63	25	25	25	25	25	25	25	25	25	25	58	88	103	118
69	25	25	25	25	25	25	25	25	25	25	74	119	142	164
75	25	25	25	25	25	25	25	25	25	25	90	150	180	210
82	25	25	27	29	30	32	34	49	64	75	135	188	218	248
88	25	25	29	32	36	39	43	73	103	125	180	225	255	285
94	25	25	30	36	41	47	52	97	142	275	225	263	293	323
100.6	25	25	32	39	46	53	60	120	180	225	270	300	330	360

BUFFER ZONE CREDITS

The buffer zone distances for applications may be reduced by the percentages listed below. Credits may be added, but credits cannot exceed 80%. Also, the minimum buffer zone distance is 25 feet regardless of buffer zone credits available.

- See www.tarpcredits.epa.gov for a list of tarps that have been tested and determined to qualify for buffer reduction credits. Only tarps listed on this website qualify for buffer reduction credits.
- 10% reduction in buffer zone distance, IF the organic content of the soil in the application block is ≥ 1% - 2%; a 20% reduction is buffer zone distance, IF the organic content of the soil in the application block is >2% - 3%; and a 30% reduction in the buffer zone distance, IF the organic content of the soil in the application block is >3%.
- 10% reduction in buffer zone distance, IF the soil temperature is measured to be 50°F or less. Record temperature measurements at the application depth or 12 inches, whichever is shallower.
- 10% reduction in the buffer zone distance, IF the clay content of the soil in the application block is greater than 27%.

Examples of Buffer Zone Calculations with Credits Applied
If the buffer zone is 50 feet and the application qualifies for a buffer zone reduction credit since the soil organic content is 1.5%, then the buffer zone can be reduced by 10%, i.e., reduced by 5 feet based on the following calculation: 50 feet – (50 feet x 10%) = 45 feet.

If the buffer zone is 50 feet and the application qualifies for two buffer zone credits since the soil organic content is 1.5% and the clay content is greater than 27%, then the buffer zone can be reduced by 20% (10% organic content credit + 10% clay content credit), i.e., reduced by 10 feet based on the following calculation 50 feet - (50 feet x 20%) = 40 feet.

POSTING FUMIGANT BUFFER ZONES

- Posting of a **buffer zone** is required unless there is a physical barrier that prevents bystander access to the buffer zone.
- Buffer Zone signs must be placed along or outside the perimeter of the buffer zone, at all usual points of entry and along likely routes of approach from areas where people not under the owner's control may approach the buffer zone.
    - Some examples of points of entry include, but are not limited to, roadways, sidewalks, paths, and bike trails.
    - Some examples of likely routes of approach include, but are not limited to, the area between a buffer zone and a roadway, or the area between a buffer zone and a housing development.
    - When posting, the certified applicator supervising the application must ensure compliance with all local laws and regulations.
- Buffer Zone signs must meet the following criteria:
    - The printed side of the sign must face away from the application block toward areas from which people could approach.
    - Signs must remain legible during the entire posting period and must meet the general standards outlined in the WPS for sign size, text size, and legibility (see 40 CFR §170.120).
    - Signs must be posted no sooner than 24 hours prior to the start of the application and remain posted until the buffer zone period has expired.
    - Signs must be removed within 3 days after the end of the buffer zone period.
    - Buffer Zone signs which meet the criteria above will be provided at points of sale for applicators to use. Templates may be downloaded from http://www.epa.gov/pesticides/reregistration/soil_fumigants/.
    - The Buffer Zone signs must contain the following information:
        - The 'Do Not Walk' symbol
        - DO NOT ENTER/NO ENTRE,
        - Metam Sodium Fumigant BUFFER ZONE,
        - Contact information for the certified applicator in charge of the fumigation.

Exception: If multiple contiguous blocks are fumigated within a 14-day period, the entire periphery of the contiguous blocks' buffer zones may be posted. Buffer Zone signs must be posted no sooner than 24-hours prior to the start of the first application. The signs must remain posted until the last buffer zone period expires and signs must be removed within 3-days after the buffer zone period for the last block has expired.

RESTRICTIONS FOR DIFFICULT TO EVACUATE SITES

Difficult to evacuate sites are pre-K to grade 12 schools, state licensed daycare centers, nursing homes, assisted living facilities, hospitals, in-patient clinics, and prisons.

- No fumigant application with a buffer zone greater than 300 feet is permitted within 1/4 mile (1320 feet) of difficult to evacuate sites unless the site is not occupied by children from state-licensed day care centers, students (pre-K to grade 12), patients, or prisoners during the application and the 36-hour period following the end of the application.
- No fumigant application with a buffer zone of 300 feet or less is permitted within 1/8 mile (660 feet) of difficult to evacuate sites unless the site is not occupied by children from state-licensed day care centers, students (pre-K to grade 12), patients, or prisoners during the application and the 36-hour period following the end of the application.

EMERGENCY PREPAREDNESS AND RESPONSE MEASURES

If the buffer zone is 25 feet, then the *Emergency Preparedness and Response Measures* are not applicable.

Triggers for Emergency Preparedness and Response Measures

The certified applicator must either follow the directions under the *Fumigant Site Monitoring* section or follow the directions under the *Response Information for Neighbors* section if:

- the buffer zone is greater than **25 feet** but less than or equal to **100 feet**, and there are residences or businesses within **50 feet** from the outer edge of the buffer zone, or
- the buffer zone is greater than **100 feet** but less than or equal to **200 feet**, and there are residences or businesses within **100 feet** from the outer edge of the buffer zone, or
- the buffer zone is greater than **200 feet** but less than or equal to **300 feet**, and there are residences or businesses within **200 feet** from the outer edge of the buffer zone, or
- the buffer zone is greater than **300 feet** or the **buffer zones overlap**, and there are residences or businesses within **300 feet** from the outer edge of the buffer zone.

Fumigant Site Monitoring

NOTE: *Fumigant Site Monitoring* is ONLY required if the *Emergency Preparedness and Response Measures* are triggered AND directions from the *Response Information for Neighbors* section are not followed.

From the start of the application until the buffer zone period expires, a certified applicator or handler(s) under his/her supervision must:

- Monitor for sensory irritation in areas between the buffer zone outer perimeter and residences and businesses that trigger this requirement.
- Monitoring for sensory irritation must begin in the evening on the day of application and continue until the buffer zone period expires. Monitor a minimum of 8 times during the buffer zone period, including these periods:
  - 1 hour before sunset,
  - during the night,
  - 1 hour after sunrise, and
  - during daylight hours.

Implement the emergency response plan immediately if a handler monitoring experiences sensory irritation.

Response Information for Neighbors

NOTE: *Response Information for Neighbors* is ONLY required if the *Emergency Preparedness and Response Measures* are triggered AND directions from the *Fumigant Site Monitoring* section are not followed.

The certified applicator supervising the application must ensure that residences and businesses that trigger the requirement have been provided the response information at least **1 week** before the application starts. The information provided may include application dates that range for no more than **4 weeks**. If the application does not occur when specified, the information must be delivered again.

Information that must be included:

- The location of the application block.
- Fumigant(s) applied including the active ingredient, name of the fumigant product(s), and the EPA Registration number.
- Contact information for the applicator and property owner.
- Time period in which the application is planned to take place (must not range more than 4 weeks).
- Early signs and symptoms of exposure to the fumigant(s) applied, what to do, and who to call if you believe you are being exposed (911 in most cases).
- How to find additional information about fumigants.

The method used to share the response information for neighbors can be accomplished through mailings, door hangers, or other methods that will effectively inform the residences and businesses within the required distance from the edge of the buffer zone.

NOTICE TO STATE AND TRIBAL LEAD AGENCIES

If your state and/or tribal lead agency requires notice, information must be provided to the appropriate state or tribal lead agency prior to the application. Please refer to www.epa.gov/fumigantstatenotice for a list of states and tribal lead agencies that require notice and information on how to submit the information.

The information that must be provided to state and tribal lead agencies includes the following:

- Location of the application blocks,
- Fumigant(s) applied including EPA registration number,
- Applicator and property owner contact information, and
- Time period that fumigation may occur.

EMERGENCY RESPONSE PLAN

The certified applicator must include in the FMP a written emergency response plan that identifies:

- evacuation routes,
- locations of telephones,
- contact information for first responders and local/state/federal/tribal personnel, and
- emergency procedures/responsibilities (e.g., adding water to the field, repairing tarps, fixing equipment, evacuating upwind) if:
    - there is an incident,
    - sensory irritation is experienced outside of the buffer zone, and/or there are equipment/tarp/seal failure or complaints, or other emergencies.

SITE-SPECIFIC FUMIGATION MANAGEMENT PLAN (FMP)

Prior to the start of application, the certified applicator supervising the application must verify that a site-specific FMP exists for each application block. In addition, an agricultural operation fumigating multiple application blocks may format the 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 sections.

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

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

Each site specific FMP must contain the following elements:

- Certified Applicator Supervising the Application
  - Name,
  - Phone number,
  - Pesticide applicator license and/or certificate number,
  - Specify if commercial or private applicator,
  - Employer name,
  - Employer address, and
  - Date and location of completing EPA approved soil fumigant training program.
- General site information
  - Application block location (e.g., county, township-range-section quadrant), address, or global positioning system (GPS) coordinates
  - Name, address, and phone number of application block owner
  - Map, aerial photo, or detailed sketch showing:
    - application block location
    - application block dimensions
    - buffer zone dimensions
    - property lines
    - roadways
    - rights-of-ways
    - sidewalks
    - permanent walking paths
    - bus stops
    - nearby application blocks
    - surrounding structures (occupied and non-occupied)
    - locations of Buffer Zone signs, and
    - locations of difficult to evacuate sites with distances from the application block labeled.
- General application information
  - Target application date/window,
  - Fumigant Product Name, and
  - EPA registration number.
- Tarp Plan (if tarp is used)
  - Schedule for checking tarps for damage, tears, and other problems,
  - Minimum size of damage that will be repaired,
  - Factors used to determine when tarp repair will be conducted,
  - Equipment/methods used to perforate tarps,
  - Target dates for perforating tarps, and
  - Target dates for removing tarps.
- Soil conditions
  - Description of soil texture and moisture in application block,
  - Method used to determine soil moisture, and
  - Soil temperature measurement if air temperatures were above 100°F in any of the 3 days prior to the

application

- Buffer zones
  - Application method,
  - Injection depth,
  - Application rate from lookup table on label,
  - Application block size from lookup table on label,
  - Credits applied and measurements taken (if applicable),
    - Tarp brand name, lot number, thickness, manufacturer, batch number, and part number
    - Organic matter content
    - Clay content
    - Soil temperature
  - Buffer zone distance, and
  - Description of areas in the buffer zone that are not under the control of the owner of the application block. If buffer zones extend onto areas not under the control of the owner, attach the written agreement and keep it with the FMP.
- Record Emergency Response Plan as described in the *Emergency Response Plan* section.
- Posting of Fumigant Treated Area and Buffer Zone
  - Person(s) who will post and remove (if different) Fumigant Treated Area and Buffer Zone signs, and
  - Location of Buffer Zone signs.
- Emergency Preparedness and Response Measures (if applicable)
  - Fumigant site monitoring (if applicable):
    - When and where it will be conducted;
  - Response information for neighbors (if applicable):
    - List of residences and businesses informed,
    - Name and phone number of person providing information, and
    - Method of providing the information.
- State and/or tribal lead agency advance notification (if state and/or tribal lead agency requires notice, provide a list of contacts that were notified and date notified)
- Plan describing how communication will take place between the certified applicator supervising the application, the owner, and other on-site handlers (e.g., tarp perforators/removers, irrigators) for complying with label requirements (e.g., buffer zone location, buffer zone start and end times, timing of tarp perforation and removal, PPE).
  - Name and phone number of persons contacted by the certified applicator, and
  - Date contacted.
- Handler (including Certified Applicators) Information and PPE
  - Names, addresses and phone numbers of handlers
  - Names, addresses, and phone numbers for employers of handlers
  - Tasks that each handler is authorized and trained to perform
  - Date of PPE training for each handler
  - Applicable handler PPE including:
    - Long-sleeved shirts/long pants, shoes, socks
    - Chemical-resistant apron
    - Chemical-resistant footwear and socks
    - Protective eyewear (not goggles)
    - Chemical-resistant gloves
    - Air-purifying respirators
      - Respirator make, model, type, style, size, and cartridge/canister type
    - Other PPE
  - For handlers: Confirmation of receipt of Fumigant Safe Handling Information.
  - For certified applicator(s) supervising the application: Completion date and location of the soil fumigant training program listed on the following EPA website http://www.epa.gov/fumiganttraining for the active ingredient(s) in this product.
  - For handlers designated to wear air-purifying respirators:
    - date of medical qualification to wear a respirator,
    - date of respirator training, and

- date of fit-testing for the respirator.
- Unless exempted in the *Protection of Handlers* section, verify that:
  - at minimum 1 handler has the appropriate respirators and cartridges/canisters during handler activities, and
  - the employer has confirmed that the appropriate respirator and cartridges/canisters are immediately available for each handler who will wear one.

- Air monitoring plan
  - If sensory irritation is experienced, indicate whether operations will cease or operations will continue with use of an air-purifying respirator
  - For monitoring the breathing zone:
    - Representative handler tasks to be monitored,
    - Monitoring equipment to be used, and
    - Timing of the monitoring.
- Good Agricultural Practices (GAPs)
  - Identify (e.g., list, attach applicable label section) applicable mandatory GAPs.
- Pesticide Product Labels and Material Safety Data Sheets (MSDS)
  - Ensure that labels and MSDS are on-site and readily available for employees to review.

Record-Keeping Procedures

The owner of the application block as well as the certified applicator supervising the application 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 application blocks (e.g., applicator information, certified applicator, handlers, record-keeping procedures, emergency procedures) 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.
- Record-keeping requirements are followed for the entire FMP (including elements that do not change).

The certified applicator must make a copy of the FMP immediately available for viewing by handlers involved in the fumigation. The certified applicator or the owner 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. The certified applicator supervising the application must ensure the FMP is at the application block during all handler activities.

Within 30 days after the application is complete, the certified applicator supervising the application must complete a Post-Application Summary.

POST-APPLICATION SUMMARY

The Post-Application Summary must contain the following elements:

- Actual date and time of the application,
- Application rate
- Size of application block
- Weather Conditions
  - Summary of the National Weather Service weather forecast during the application and the 48- hours after the application is complete including:
    - wind speed, and
    - air stagnation advisory (if applicable).
  - Forecast must be checked on the day of, but prior to the start of the application, and on a daily basis during the application if the time period from the start of the application until the application is complete is greater than 24 hours.
- Tarp damage and repair information (if applicable):

- Date of tarp damage discovery,
- Location and size of tarp damage,
- Description of tarp/tarp seal/tarp equipment failure, and
- Date and time of tarp repair completion.

- Tarp perforation/removal details (if applicable):
  - Date and time tarps were perforated,
  - Date and time tarps were removed, and
  - Record if tarps were perforated and/or removed early. Describe the conditions that caused early tarp perforation and/or removal.
- 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, and
  - Description of control measures or emergency procedures followed after complaint.
- Description of incidents, equipment failure, or other emergency and emergency procedures followed (if applicable).
- Air monitoring results:
  - When sensory irritation was experienced:
    - Date, time, location, and handler task/activity where irritation was observed and
    - Resulting action (e.g., implement emergency response plan, cease operations, continue operations with air-purifying respirators).
  - When using a direct read detection device:
    - Sample date(s), time(s), location(s), and concentration(s),
    - Handler task/activity monitored (if applicable), and
    - Resulting action (e.g., cease operations, continue operations with air-purifying respirators).
- Fumigant Treated Area and Buffer Zone Signs:
  - Dates of posting and removal.
- Any deviations from the FMP (e.g., changes in emergency response actions, changes in handler information, changes in handlers responsible for completing emergency tasks, changes in communication between certified applicator, owner, and other handlers).

Record-Keeping Procedures

The owner of the application block, as well as the certified applicator supervising the application, must keep a signed copy of the Post-Application Summary for 2 years from the date of application.

PRODUCT INSTRUCTIONS

Product Information
AMVAC METAM is a water soluble liquid. When applied to soil, the liquid is converted into a volatile fumigant (Methylisothiocyanate, MITC). After a sufficient interval of time, the gas dissipates leaving the soil ready for planting.

When to Use Maximum and Minimum Rates
The application rate of AMVAC METAM 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 weed seeds). When a range of application rates is given in this label consult your local agricultural extension service for more specific information.

Organic Matter in the Soil
Because of the absorbing effect of humus, soils with high levels of organic matter under the surface require higher than usual doses of AMVAC METAM. For example; muck soils require twice the amount of fumigant that would be used in mineral soils.

Use Precautions
Keep children and pets out of treated area. Keep off desirable lawns and plants. Do not apply within 3 feet of the drip line of desirable plants, shrubs or trees. Do not use in confined areas or where fumes may enter near-by houses. Do not use in greenhouses. Keep container tightly closed when not in use. Do not store near feed or food.

Cultivation and Planting After Application
On well-drained soil of light to medium texture which are not excessively wet or cold following application, planting may take place 14 to 21 days after treatment. If soils are heavy or especially high in organic matter or remain wet and/or cold (below 60°F) following application of AMVAC METAM an extended interval should be observed. Where dosages are greater than 100 gals. per acre, wait at least 60 days. On heavy, wet soils, light surface cultivation to break up crusting and promote drying of the soil should be done 5 to 7 days after application. This cultivation may be repeated as necessary. To avoid reinfesting treated soils, cultural practices should be such that untreated soils are not mixed with treated soils.

SPECIAL INSTRUCTIONS: When treating potting soil, or heavier field soils, including soil high in clay or organic matter, it is essentially important that the soils be allowed to aerate and dry thoroughly after using AMVAC METAM. During cold and or wet weather, frequent shallow cultivations may aid the escape of AMVAC METAM from the soil. If in doubt, transplant a seedling plant and examine for injury before planting crop.

Uses, Application Methods and Rates for Shallow Pests in Seed Beds, Plant Beds, and Other Limited Areas

SOIL INJECTION: Space injection shanks 5 inches apart and inject AMVAC METAM into well prepared soil. Follow immediately with a roller to smooth and compact the soil surface. Light watering or a tarp after rolling helps to prevent gas escape For seed beds a dosage of 75 to 100 gallons per treated acre (1 ½ to 2 pts. per sq. ft.) is recommended.

ROTARY TILLER: Spray diluted AMVAC METAM immediately in front of tiller. Use 1 qt. in 2 ½ gals water per each 100 sq. ft. Follow immediately with a roller to smooth and compact the soil surface. Light watering or a tarp after rolling will help prevent gas escape.

The activity of AMVAC METAM is increased by sealing via the rotovate and roll technique.

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.

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 AMVAC METAM to the stream of water while filling the basin. Use 1 qt. AMVAC METAM per 100 sq. ft. in sufficient water (depending on soil type) to penetrate at least 5 ft. For control of Oak Root fungus, use a basin at least 20x20 ft square. Increase dosage to 2 qts. per 100 sq. ft in sufficient water to penetrate to the depth of root system. If water is tanked to the planting site, add to AMVAC METAM the water and mix before filling basin.

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

AMVAC METAM is applied after harvest and 14 to 21 days before a new crop is planted. In some areas, fall applications are preferred, as the product will degrade/dissipate over the winter, which allows planting to begin as soon as favorable springtime conditions arrive.

APPLICATION RATE
Apply 40 to 100 gallons of this product per treated acre depending on crop, target pest and soil properties (or see crop-specific considerations in the Additional Information section of this label). 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 control 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 only be required (see application specific requirements in the Good Agricultural Practices section of this label). 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.

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.

PHYTOTOXICITY
AMVAC METAM 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 non-uniform distribution of the treated water.

APPLICATION OF AMVAC METAM
Apply according to the methods and rates outlined below under the section "USES, APPLICATION METHODS AND RATES".

USE OF DILUTED AMVAC METAM
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.

APPLICATION IN TANK MIX WITH LIQUID FERTILIZER
AMVAC METAM may be injected in a mixture with liquid fertilizers. Since the composition of liquid fertilizers vary considerably, the physical compatibility of each AMVAC METAM/fertilizer tank mix should be checked by using the following procedure:

Mix a small quantity of AMVAC METAM and liquid fertilizer in the same ratio as they will be applied to the field, i.e., if 40 gallons of AMVAC METAM and 40 gallons of liquid fertilizer are to be applied per treated 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 DAY'S USE. DISASSEMBLE VALVES AND CLEAN CAREFULLY.

STATEMENTS CONCERNING CHEMIGATION OF AMVAC METAM
When applying by chemigation methods, the following directions or warnings must be observed.

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, solid set, or hand move; flood (basin), furrow, border, or drip (trickle) irrigation system(s).

Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State extension service specialists, equipment manufacturers or other experts. Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

OBSERVE THE FOLLOWING PRECAUTIONS IF YOUR CHEMIGATION SYSTEM IS CONNECTED TO A PUBLIC WATER SYSTEM

NOTE: AMVAC CHEMICAL CORPORATION DOES NOT ENCOURAGE CONNECTION OF CHEMIGATION SYSTEMS TO PUBLIC WATER SYSTEMS. THE FOLLOWING INFORMATION IS PROVIDED FOR USERS WHO HAVE EVALUATED ALTERNATIVE APPLICATION AND WATER SOURCE OPTIONS BEFORE CHOOSING TO MAKE SUCH A CONNECTION.

Public water system is defined as a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of a year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction.

There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top of overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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

Any alternatives to the required safety devices in this label must conform to the list of EPA-approved alternative devices.

SPRINKLER CHEMIGATION SYSTEMS
See "Uses, Rates And Application Methods -- Field Application Where Entire Area Is Being Treated" Section.

PREPARATION FOR PLANTING AFTER APPLICATION OF AMVAC METAM

Effect of Rains
If a AMVAC METAM 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 AMVAC METAM is harmful to germinating seeds and living plants, an appropriate interval must be observed between treatments 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 AMVAC METAM. During cold and/or wet weather, frequent shallow cultivation can aid dissipation of AMVAC METAM 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. **CAUTION:** 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 dissipate/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 to 2 oz) soil samples, mix briefly, and immediately place a portion in an airtight 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°F to 85°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 1 to 3 days.
5. The soil is safe to plant if seed germinate as well in the treated soil as the untreated control.

CAUTION

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

Tomato Transplant Test
Transplant 5 to 10 succulent, fast-growing tomato seedlings into fumigated beds (approximately 4 to 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 varies 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.)

NOTE: It may be necessary to stagger the injector placement on 2 or more tool bars to prevent soil build up during application.

Apply AMVAC METAM at the rate of 40 to 100 gallons per treated acre (or see crop-specific considerations in the Additional Information section of this label). Follow immediately with a roller to smooth and compact the soil surface. Light watering or tarping after rolling helps prevent gas escape.

When setting up your soil injection equipment with either spray blades, injection knives 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 tool bars with the injection tools staggered. This will help prevent buildup of trash and aid in the soil sealing.

Example: Apply AMVAC METAM through injectors placed 4 inches below the soil surface and 5 inches apart.

Rotary Tiller or Power Mulcher
Spray diluted AMVAC METAM immediately in front of tiller or mulcher. Use 40 to 100 gallons per treated acre (or see crop-specific considerations in the Additional Information section of this label). Follow immediately with a bedshaper, roller press wheel, or similar device, or cover with an adequate amount of soil to seal the fumigant into the soil. Light watering or tarping after rolling or bedshaping helps prevent the escape of gas.

Sprinkler System
Use only sprinkler systems which give large water droplets to prevent excessive loss. Use 50 to 100 gallons of AMVAC METAM per treated acre in a minimum of 1 acre-inch of water (or see crop-specific considerations in the Additional Information section of this label). For control of shallow pests (top 1 foot or less of soil profile), use 40 to 100 gallons of AMVAC METAM per treated acre and inject in only enough water to reach the desired treatment depth. Meter continuously into the sprinkler system throughout the entire application period. At completion of application, flush the system with only enough water to clear the lines. If soil surface dried quickly, reseal it by running sprinklers for 20 minutes once a day for the next day or two. On very light soils, keep surface moist by sprinkling for 2 or 3 days.

Application Over Cover Crops

AMVAC METAM can be applied through center pivot or solid set sprinkler systems over cover crops that are living and less than approximately eight inches tall such as alfalfa, clover, and grasses such as Rye, Oats, Wheat and Sudan. When applied over cover crops, no soil cultivation is required before the application. The terminated crop must not be used for any food or feed purposes after AMVAC METAM has been applied.

Runoff of Treatment Solutions
To prevent runoff of the treatment solution during a Sprinkler Application, do not apply the solution at a rate greater than the absorption capacity of the field. Should runoff occur, isolate it from growing crops and water sources. Once collected, reapply it to the treated field.

Check Flood (Basin) Furrow and Border
Meter AMVAC METAM at a steady rate into water during irrigation. Depending on the kind of pest and the treatment depth, use 40 to 100 gallons per treated acre in 3 to 18 inches of water per acre. Meter AMVAC METAM into the irrigation water at the head of the field at a point with enough turbulence to assure adequate mixing of the product in the water.

FIELD APPLICATION TO BEDS OR ROWS

Soil Injection
AMVAC METAM may be injected into pre-formed plant beds following the directions given above under soil injection. If a wider treated band is desired, space 2 or more shanks at intervals of 5 inches to cover the desired treating width. Use thin injection shank(s) and inject AMVAC METAM, 4 inches deep into well-prepared soil. Follow immediately with a bedshaper, roller press wheel, or similar device, or cover with an adequate amount of soil to seal the fumigant into the soil. Light watering or a tarp after rolling helps to prevent gas escape. Apply at the rate of 49.2 to 122.9 fluid ounces/1,000 linear feet of bed per chisel (40 to 100 gallons/treated acre) (or see crop-specific considerations in the Additional Information section of this label). Space shanks 5 inches apart to cover the desired treating width. If AMVAC METAM is injected into established plant beds through plastic tarps to terminate growth of a previous crop, and to fumigate the bed in preparation of planting a subsequent crop, the terminated crop must not be used for any food or feed purposes after AMVAC METAM has been applied.

Soil Covering Method (Bed-over methods)
AMVAC METAM may be sprayed or dripped in a bed wide band onto the soil immediately ahead of bedshaping equipment. Cover the AMVAC METAM with soil to a depth of 3 to 6 inches. The soil should be rolled and compacted immediately. Apply at the rate of 40 to 100 gallons per acre of treated soil (or see crop-specific considerations in the Additional Information section of this label) or 5.9 to 29.4 fluid ounces per 100 linear feet of row (12-inch wide bed.) If a narrower or wider bed is to be treated, adjust the fluid ounces per 100 linear feet of row to reflect the actual treated acres.

Rotary Tiller or Power Mulcher
Spray AMVAC METAM immediately in front of the tiller or mulcher. Use 40 to 100 gallons per treated acre (or see crop-specific considerations in the Additional Information section of this label). Follow immediately with a bedshaper, roller press wheel, or similar device, or cover with an adequate amount of soil to seal the fumigant into the soil. Light watering or a tarp after rolling may be used to help prevent gas escape.

DRIP IRRIGATION SYSTEM

Method of Determining Fluid Ounces per 100 Feet of Linear Row

(1) Determine width of treated bed in feet by dividing width of bed in inches by 12. Example: 5 in. bed = 5 in. 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 feet x 100 feet = 41.66 square feet.

(3) Determine the treated acres per 100 linear feet of bed by dividing the square feet by 43,560 (square feet in

acre). Example: 41.66 square feet divided by 43,560 = 0.00096 acre.

(4) To determine the fluid ounces per 100 linear feet.

a) 1 gallon = 128 fluid ounces; 50 gallons = 6,400 fluid ounces; 100 gallons = 12,800 fluid ounces
b) Multiply fluid ounces by acres. Example: 50 gallons = 6,400 fluid ounces x 0.00096 = 6.14 fluid ounces per 100 linear

AMVAC METAM must be applied through a drip irrigation system to wet the soil thoroughly in the area being treated. Meter 40 to 75 gallons AMVAC METAM per treated acre into the drip system during the entire irrigation period.

ADDITIONAL INFORMATION

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

PEANUTS
For control of Cylindrocladium Black Rot (CBR) and nematodes, apply AMVAC METAM at the rate of 10 gallons per treated acre (8.81 fluid ounces per 100 linear feet of row).

Use with partially resistant cultivators (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 AMVAC METAM, all residues 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 by applied prior to the application of AMVAC METAM.

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 AMVAC METAM. An 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 100 gallons of AMVAC METAM 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 Dahlia (Early Maturity Disease).

Soil Injection: Apply a minimum of 40 gallons per treated acre of AMVAC METAM following the directions for "FIELD APPLICATION WHERE ENTIRE AREA IS BEING TREATED."

Early Maturity Diseases of Potatoes in the Pacific Northwest
Apply 40 gallons AMVAC METAM per treated acre using the soil injection method as described in the "FIELD APPLICATION WHERE ENTIRE AREA IS BEING TREATED" section.

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 AMVAC METAM to the stream of water while filling the basin. Use 1 qt. AMVAC METAM per 100 square feet in sufficient water (depending on the soil type) to penetrate at least 6 feet. For control of Oak Root fungus, use a basin of at least 20 square feet. Increase dosage to 2 quarts per 100 square feet in sufficient water to penetrate to the depth of the root system. If water is tanked to the planting site, add to AMVAC METAM the water and mix before filling the basin. Tarping of replant sites is required when near (1/2 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 1/2 mile from such populated areas.

SYMPHYLID SUPPRESSION
Soil should be in good seedbed condition to a depth of 8 to 10 inches. Maintain adequate moisture during the spring season to bring Symphylids to the upper soil surface. Treat during July to August when Symphylids are in the upper soil surface. Apply a minimum of 20 gallons of AMVAC METAM per treated acre (0.4 pints per 100 square feet 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.

Drench Method
Apply 2 1/2 gallons AMVAC METAM in 150 to 200 gallons of water per 100 square yards. Application may be made with sprinklers, sprayers with nozzles or any suitable equipment. Follow directions given above for FIELD APPLICATION WHERE ENTIRE AREA IS BEING TREATED.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not expose to extreme temperatures. Do not stack more than four drums high. Leaking or damaged drums should be placed in overpack drums for disposal. Spills should be absorbed in sawdust or sand and disposed of in a sanitary landfill. Keep container closed when not in use.

PESTICIDE DISPOSAL: Pesticides 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 Protection Agency, or the Hazardous Waste Representative at the nearest EPA regional office for guidance.

CONTAINER DISPOSAL:
Nonrefillable container. Do not reuse or refill this container. Offer for recycling if appropriate. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank. Repeat this procedure two more times.

Refillable container. Refill this container with sodium or potassium methyldithiocarbamate only. Do not reuse this container for any other purpose. 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.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use, subject to the inherent risks referred to herein, when it is used in accordance with such directions; and (c) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions.

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