



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

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Rodney Akers
Arysta LifeScience North America
15401 Weston Parkway, Suite 150
Cary, NC 27513

JAN - 6 2012

Subject: Midas 50:50
EPA Reg. No. 66330-57
Phase 2 RED Mitigation Amendment Dated December 16, 2011
EPA Decision Number 459343

Dear Dr. Akers:

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

LABEL REVISIONS

For sale and use in all states other than California

1. On page 11 under the Air-Purifying Respirator Availability section make the following revisions:
 - Revise "The employers" to read, "The employer"
 - Delete "and these handlers must be in compliance with respiratory protection regulations (California's Title 3 CCR Section 6739)" and replace with "(see *Respirator Fit-Testing, Medical Qualification, and Training* section for additional requirements)."
 - In the last paragraph replace "1 ppm" with "1.5 ppm"
 - In the last paragraph delete, "as required om California's Title 3 CCR Section 6739" and replace with "after 8 hours of cumulative use, whichever occurs first."
2. On page 14 under For OPTION 1 letter b in i. in the second bullet insert "iodomethane" in between "consecutive" and "breathing"

3. On page 14 under For OPTION 1 letter b in ii. in the second bullet insert "iodomethane" in between "consecutive" and "breathing"
4. On page 16 under the Tarp Perforation and/or Removal section delete the second period at the end of the third bullet.
5. On page 33 under Fumigant Site Monitoring delete ", or an air sample is greater than or equal to 0.2 ppm for iodomethane."
6. On page 39, in Storage and Disposal, make the following revisions:
 - a. Change "Handling" to "Container Handling."
 - b. Revise the first sentence in "Handling" to read as follows "Do not subject cylinders to rough handling or...."

For sale and use in California only

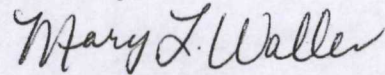
1. On page 10 under the Air-Purifying Respirator Availability revise "The employers" to read, "The employer"
2. On page 33, in Storage and Disposal, make the following revisions:
 - a. Change "Handling" to "Container Handling."
 - b. Revise the first sentence in "Handling" to read as follows "Do not subject cylinders to rough handling or...."

CONDITIONS

1. EPA has determined that the risk mitigation measures on the revised label for this product are necessary to adequately protect human health and the environment. Therefore, pursuant to 40 CFR § 152.130(d), EPA has decided that no product bearing previously approved labeling may be sold or distributed (released for shipment) by its registrant after December 1, 2012. Wherever state approval is required for sale or distribution of this product with this new labeling, EPA strongly encourages you to submit an application to the state authority as soon as possible. You should be aware that the Agency does not intend to modify the December 1, 2012 deadline because of any failure to obtain state approvals.
2. Submit one copy of the final printed label that incorporates the required changes before the product is released for shipment.

One copy of the label stamped "Accepted with comments" is enclosed for your records. If you have any questions, please contact Andrea Mojica by phone at 703-308-0122 or via email at mojica.andrea@epa.gov or Mary Waller by phone at 703-308-9354 or email at waller.mary@epa.gov.

Sincerely,



Mary L. Waller
Product Manager (21)
Fungicide Branch
Registration Division (7504P)

Enclosure

4/43

**RESTRICTED USE PESTICIDE
DUE TO ACUTE TOXICITY**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.



Arysta LifeScience

MASTER LABEL

Note: This master label consist of two different labels due to state requirements:

- MIDAS® 50:50 For sale and use in all states other than California
- MIDAS® 50:50 For sale and use in California only

MIDAS 50:50

ACTIVE INGREDIENTS:

Iodomethane	49.90%
Chloropicrin	49.75%
OTHER INGREDIENTS:035%
TOTAL:	100.00%

One gallon weighs 15.9 pounds (7.93 pounds Iodomethane and 7.91 pounds Chloropicrin).

EPA Reg. No. 66330-57

EPA Est Number:

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO

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

For Product Use Information Call 1-866-761-9397

Produced for:
Arysta LifeScience North America, LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513

**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

1/6/2012

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

NET WEIGHT: _____

66330-57

5/43

**RESTRICTED USE PESTICIDE
DUE TO ACUTE TOXICITY**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

**MIDAS® 50:50
FOR SALE AND USE IN STATES OTHER THAN CALIFORNIA**

Only For Pre-Plant Fumigations of Fields Intended for Commercial Production of Listed Crops and Field-Grown Ornamentals, for the Control of Soil-Borne Pests Including Weed Seeds, Nematodes, Insects, and Diseases

ACTIVE INGREDIENTS:

Iodomethane	49.90%
Chloropicrin	49.75%
OTHER INGREDIENTS:	0.35%
TOTAL:	100.00%

One gallon weighs 15.9 pounds (7.93 pounds Iodomethane and 7.91 pounds Chloropicrin).

**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 in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • 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 inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
If swallowed	<ul style="list-style-type: none"> • 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 to an unconscious person.
HOT LINE NUMBERS	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952 or 1-651-632-8946	
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage. Symptoms of overexposure may include irritation to eyes, skin, and respiratory system, shortness of breath, nausea, vomiting, dizziness, ataxia, slurred speech, drowsiness, blurred vision, staggering gait and mental imbalance, with probable recovery after period of no exposure. Treatment is symptomatic.	

EPA Reg. No. 66330-57
For Product Information Call: 1-866-761-9397
Net Contents: _____ lbs

EPA Est. No.

**Manufactured for
Arysta LifeScience North America, LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513**

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PRECAUTIONARY STATEMENTS

HAZARD TO HUMANS AND DOMESTIC ANIMALS

Danger. Corrosive. Causes irreversible eye damage. Corrosive to skin. Causes skin burns. May be fatal if inhaled or swallowed. Harmful if absorbed through skin. Do not get in eyes, on skin or on clothing. Do not breathe vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SPECIAL NOTE: This product contains chloropicrin, a poisonous liquid or vapor. Inhalation of vapors may be fatal. Chloropicrin is readily identified by smell. Exposure to very low concentrations of vapor will cause irritation of eyes, nose and throat. Continued exposure after irritation is evident or higher concentrations may cause painful irritation to the eyes or temporary blindness. Liquid will cause chemical burns to skin or eyes. Do not get on skin, in eyes, or on clothing. Chloropicrin fumigant has the capacity to cause marked irritation to the upper respiratory tract and is a strong lachrymator (tear producing eye irritant). Low concentrations, below those necessary to cause serious systemic intoxication, are capable of causing severely painful eye irritation, hence will not be voluntarily tolerated. However, the effect may be so powerful that a person may become temporarily blinded and panic-stricken and that in turn may lead to accidents.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are barrier laminate or viton ≥ 14 mils. For more options, follow the instructions for category H on the chemical-resistance category selection chart.

When performing tasks with potential for contact with liquid fumigant, all handlers (including applicators) must wear:

- Loose fitting or well ventilated long-sleeved shirt and long pants,
- Chemical-resistant gloves,
- Chemical-resistant apron,
- Chemical-resistant footwear with socks,
- Full-face shield or safety glasses with brow, temple and side protection. DO NOT wear goggles, and
- A half-face air-purifying respirator with a 3M Brand No. 60928 organic vapor (OV) cartridge with a P100 pre-filter (NIOSH approval number prefix TC-84A), or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter, including P100 pre-filter.
- In addition, if sensory irritation (tearing, burning, of the eyes or nose) is experienced while wearing a half-face air-purifying respirator, handlers must wear at a minimum a full-facepiece air-purifying respirator with a 3M Brand No. 60928 organic vapor (OV) cartridge with P100 pre-filter (NIOSH approval number prefix TC-84A) or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter, including P100 pre-filter. See Directions for Use, Air Monitoring Requirements and Respiratory Protection and Stop Work Triggers, number 1: Handlers Wearing Half-Face Air-Purifying Respirators, for when a full-facepiece air-purifying respirator is required.

When performing tasks with NO potential for contact with liquid fumigant, all handlers (including applicators) present in either the application block from the start of the application until 5 days (120 hours) after the application is complete, or the buffer zone during the buffer zone period, or performing fumigant site monitoring must wear:

- Loose fitting or well ventilated long-sleeved shirt and long pants.
- Shoes plus socks.
- Full-face shield or safety glasses with brow, temple and side protection. DO NOT wear goggles.

- A half-face air-purifying respirator with a 3M Brand No. 60928 organic vapor (OV) cartridge with a P100 pre-filter (NIOSH approval number prefix TC-84A), or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter, including P100 pre-filter.
- In addition, if sensory irritation (tearing, burning, of the eyes or nose) is experienced while wearing a half-face air-purifying respirator, handlers must wear at a minimum a full-facepiece air-purifying respirator with a 3M Brand No. 60928 organic vapor (OV) cartridge with P100 pre-filter (NIOSH approval number prefix TC-84A) or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter, including P100 pre-filter. See Directions for Use, Air Monitoring Requirements and Respiratory Protection and Stop Work Triggers, number 1: Handlers Wearing Half-Face Air-Purifying Respirators, for when a full-facepiece air-purifying respirator is required.

Exception: Handlers performing fumigant site monitoring tasks outside the buffer zone are not required to wear an air-purifying respirator.

For tractor drivers and tractor co-pilots the following can be used in lieu of a half-face air-purifying respirator: (USING AIR FAN DILUTION SYSTEM IN LIEU OF WEARING A HALF-FACE AIR-PURIFYING RESPIRATOR IS NOT ALLOWED IN THE STATE OF FLORIDA)

- A tractor equipped with a working-area air-fan dilution system consisting of a ducted fan/blower which provides air flow to the breathing zone of the tractor driver and co-pilot. The fan/blower must be mounted so that the fan/blower intake is at least 126 inches from the ground, and the fan/blower must be capable of operating at a minimum of 1,600 revolutions per minute and producing a minimum flow rate of 3,000 cubic feet of air per minute.
- See Directions for Use, Air Monitoring Requirements and Respiratory Protection and Stop Work Triggers, number 2: Tractor Driver and Tractor Co-Pilots Using Air Fan Dilution Equipment, for when full-facepiece air-purifying respirator is required.

When performing tasks with NO potential for contact with liquid fumigant, all handlers (including applicators) present in the application block 5 days (120 hours) after the application is complete until the entry restricted period expires must wear:

- Loose fitting or well ventilated long-sleeved shirt and long pants.
- Shoes plus socks.
- Full-face shield or safety glasses with brow, temple and side protection. DO NOT wear goggles.
- In addition, if sensory irritation (tearing, burning, of the eyes or nose) is experienced, handlers must wear at a minimum a full facepiece air-purifying respirator with a 3M Brand No. 60928 organic vapor (OV) cartridge with P100 pre-filter (NIOSH approval number prefix TC-84A) or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter, including P100 prefilter. See Directions for Use, Air Monitoring Requirements and Respiratory Protection and Stop Work Triggers, number 3: Handlers in the Application Block 5 days (120 hours) after the Application is Complete until the Entry Restricted Period Expires, for when a full-facepiece air-purifying respirator is required.

Exception: Handlers removing tarps may be required to wear air-purifying respirators if monitoring indicates that iodomethane levels are between 0.2 ppm and 5 ppm. See Tarp Perforation and/or Removal section for requirements.

IMPORTANT: A self-contained breathing apparatus (SCBA) is not permitted for routine handler tasks. If responding to an emergency when corrective action is needed to reduce air concentrations to acceptable levels, wear an SCBA. Escape only SCBA respirators must not be used by handlers for responding to emergencies. In addition wear PPE required for potential contact with liquid fumigant.

User Safety Requirements

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

User Safety Recommendations

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing and gloves, if worn, immediately if pesticide gets inside, then wash skin thoroughly and put on clean clothing and gloves, if worn.
- 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 and birds. Do not apply directly to water or to areas where surface water is present or to inter-tidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate. Iodomethane and chloropicrin have certain properties and characteristics in common with chemicals that have been detected in ground water (iodomethane and chloropicrin are highly soluble in water and have low adsorption to soil). For untarped applications of this product containing chloropicrin, leaching and runoff may occur if there is heavy rainfall after soil fumigation.

Physical or Chemical Hazards

Do not use or store near heat, open flames, or sparking electrical equipment. Do not use application devices containing natural rubber, aluminum, magnesium or their alloys.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

Read all Directions for Use carefully before applying this product. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only handlers may be 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.

For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. 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.

Read all Directions for Use carefully before applying this product.

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., pounds 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).

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).

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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.

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 www.epa.gov/fumigantraining for the active ingredient(s) 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.

Product Information and Instructions

This fumigant is a highly hazardous material. All uses of this fumigant are covered under the Worker Protection Standard, and must be conducted in accordance with all of the requirements of the Worker Protection Standard (40 CFR Part 170). It is a restricted use pesticide that must only be used by Certified Applicators, trained in the proper handling, worker protection, and application of MIDAS 50:50 soil fumigant and handlers under their direct supervision. Before using, read the entire label and follow all use directions and precautions. All persons working with this fumigant must be knowledgeable about the hazards and trained in the use of required air-purifying respirator equipment and detector devices, emergency procedures and proper use of the fumigant.

Control of Soil-Borne Pests: MIDAS 50:50 controls soil-borne pests including nematodes, insects, weed seeds, and diseases.

MIDAS 50:50 will control the following pests when present in soil at the time of treatment:

Weed Seeds, including broadleaf weeds such as nutsedge, pigweed, broomrape and lambsquarters, and grasses such as bermudagrass, and annual bluegrass. Effectiveness against hard seed weeds, such as mallow, dodder, morning glory, and certain leguminous weeds may be variable.

Plant-parasitic Nematodes, such as root-knot, root lesion (meadow), cyst, citrus, burrowing, false root-knot, lance, spiral, ring, stubby root, dagger, awl, sheath and sting (stylet) nematodes.

Soil-borne Insects, such as wireworms, cutworms, grubs, rootworms, ants and garden symphylans.

Soil-borne Diseases, such as *Verticillium*, *Pythium*, *Rhizoctonia*, *Phytophthora*, and *Fusarium*.

MIDAS 50:50 is not to be used as a preventative treatment for pests that may be introduced after the fumigant has been applied and/or tarps removed. To reduce the potential for the re-introduction of pests (nematodes, weed seed and disease); avoid the use of irrigation water, transplants or equipment that could carry pests into the planting area. Avoid moving infested soil back into the treated area through cultivation or other means.

Restrictions and Use Precautions

- Comply with all local ordinances and regulations.
- The use of this product is restricted to the methods described in this label.
- Applications are limited to 40 contiguous acres or less per day.
- In Florida, do not apply this product within 100 feet of a potable drinking water well.
- Never fumigate alone. A minimum of two persons must be present during handling and application of soil fumigants.
- Additional instructions must be made available to handlers in the mechanical operation of the tractor and how to safely work with the operator while fumigating.
- Always handle this product in the open, with all handlers positioned "upwind" from the container and/or where there is adequate ventilation.
- When fumigating from a tractor, it is required that 5 gallons of water be carried on the tractor and readily available for rinsing and cleaning purposes. An additional 5 gallons of water must be available in the service truck. This water must be potable and in containers marked "Decontamination water not to be used for drinking".
- For broadcast/flat fume applications, keep all pets, livestock and other domestic animals out of the treated areas until tarps have been removed.
- For raised bed applications, keep all pets, livestock and other domestic animals out of the treated areas for 5 days. Most raised bed applications will not result in tarp removal.

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 application 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, to 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 owners/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 he/she can understand. **Fumigant Safe Handling Information** will be provided where this product is purchased, or at <http://www.epa.gov/fumigantraining>.

For all handling tasks at least two handlers must be present.

Exception: After the application is complete, only one trained handler is required to perform fumigant site monitoring tasks outside of the buffer zone.

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 employers 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 a minimum two handlers must have the appropriate air-purifying respirator and cartridges available and these handlers must be in compliance with respiratory protection regulations (California's Title 3 CCR Section 6739).

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

Cartridges must be replaced when odor or sensory irritation from this product becomes apparent during use, if the measured concentration of chloropicrin is greater than or equal to 1 ppm, if the measured

concentration of iodomethane is greater than or equal to 5 ppm, or as required on California's Title 3 CCR Section 6739.

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

Air Monitoring Requirements and Respiratory Protection and Stop Work Triggers

Air Monitoring Requirements

- When half-face or full-facepiece air-purifying respirators are worn, air monitoring samples for iodomethane must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task. Chloropicrin breathing zone samples must also be collected at least every 2 hours if full-facepiece air-purifying respirators are worn.
- 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 using devices to monitor air concentration levels, a direct read detection device, such as an electronic device or a colorimetric device (e.g., Matheson-Kitagawa, Draeger, or Sensidyne) must be used. The devices must have a detectable limit of at least 0.2 ppm for iodomethane and 0.15 ppm for chloropicrin. Persons using direct read detection devices must follow the manufacturer's directions.

Respiratory Protection and Stop Work Triggers

1. Handlers Wearing Half-Face Air-Purifying Respirators

(Handlers are required to start work in half-face air-purifying respirators)

The *Air Monitoring Requirements* section above must be followed.

- If at any time an iodomethane breathing zone air sample is greater than 5 ppm, then all handler activities must cease and handlers must be removed from the application block and surrounding buffer zone.
 - a) Handlers can resume operations with half-face air-purifying respirators if all of the following conditions exist:
 - o Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than or equal to 5 ppm,
 - o Handlers do not experience sensory irritation, and
 - o Cartridges have been changed.
 - o During the collection of air samples a full-facepiece air-purifying respirator must be worn by the handler taking air samples. Samples must be taken where the sample(s) exceeded 5 ppm for iodomethane.
- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) while wearing a half-face air-purifying respirator, then either:
 - o (OPTION 1) A full-facepiece air-purifying respirator must be worn by all handlers who remain in the application block or surrounding buffer zone, or
 - o (OPTION 2) Operations must cease and handlers not wearing full-facepiece air-purifying respirators must leave the application block and surrounding buffer zone.

For OPTION 1 (all handlers are wearing a full-facepiece air-purifying respirator)

a) Handlers can **resume** operations wearing half-face air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than or equal to 5 ppm, and
- Handlers do not experience sensory irritation.
- During the collection of air samples a full-facepiece air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced.

b) If at any time: (1) a handler experiences sensory irritation when wearing a full-facepiece air-purifying respirator, or (2) an iodomethane breathing zone sample is greater than 5 ppm or (3) a chloropicrin breathing zone sample is greater than or equal to 1.5 ppm, then all handler activities must cease and handlers must be removed from the application block and surrounding buffer zone.

o Handlers can **resume** operations wearing half-face air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than or equal to 5 ppm,
- Handlers do not experience sensory irritation, and
- Cartridges have been changed.
- During the collection of air samples a full-facepiece air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced, or where the sample(s) exceeded 5 ppm for iodomethane or where sample(s) were greater than or equal to 1.5 ppm for chloropicrin.

For OPTION 2 (Operations ceased)

a) Handlers can **resume** operations wearing half-face air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than or equal to 5 ppm, and
- Handlers do not experience sensory irritation.
- During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced.

2. Tractor Driver and Tractor Co-Pilots Using Air Fan Dilution Equipment (The use of Air Fan Dilution Equipment in lieu of wearing a half-face air-purifying respirator is not allowed in the State of Florida)

(Tractor Driver and Tractor Co-Pilots are not required to start in half-face air-purifying respirators if conditions in the *Personal Protective Equipment (PPE)* section are met).

The *Air Monitoring Requirements* section above must be followed.

- If at any time tractor drivers and/or tractor co-pilots experience sensory irritation (tearing, burning of the eyes or nose) then either:
 - o (OPTION 1) A full-facepiece air-purifying respirator must be worn by all tractor drivers and tractor co-pilots who remain in the application block, or
 - o (OPTION 2) Operations must cease and tractor drivers and tractor co-pilots not wearing full-facepiece air-purifying respirators must leave the application block and buffer zone.

For OPTION 1 (all tractor drivers and tractor co-pilots are wearing full- facepiece air-purifying respirators.)

a) Tractor drivers and tractor co-pilots can remove full-facepiece air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin samples taken in the breathing zone of the tractor drivers or tractor co-pilots at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive iodomethane samples taken in the breathing zone of the tractor drivers or tractor co-pilots at least 15 minutes apart must be less than 0.2 ppm,
- Tractor drivers and tractor co-pilots do not experience sensory irritation, and
- The air-fan dilution system is operating at a minimum of 1,600 revolutions per minute and producing a minimum flow rate of 3,000 cubic feet of air per minute.
- During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced.

b) If at any time (1) a tractor driver and/or tractor co-pilot experiences sensory irritation when wearing a full-facepiece air-purifying respirator, or (2) an iodomethane breathing zone sample is greater than 5 ppm or (3) a chloropicrin breathing zone sample is greater than or equal to 1.5 ppm, then all activities must cease and tractor drivers and tractor co-pilots must be removed from the application block and buffer zone.

i. Tractor drivers and tractor co-pilots can **resume** operations **without** wearing full-facepiece air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.2 ppm,
- Tractor drivers and tractor co-pilots do not experience sensory irritation, and
- The air-fan dilution system is operating at a minimum of 1,600 revolutions per minute and producing a minimum flow rate of 3,000 cubic feet of air per minute.
- During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced, or where the sample(s) exceeded 5 ppm for iodomethane or where sample(s) were greater than or equal to 1.5 ppm for chloropicrin.

ii. Tractor drivers and tractor co-pilots can **resume** operations **with** full-facepiece air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 1.5 ppm,
- Two consecutive breathing zone samples taken at the handling site at least 15 minutes apart must be less than or equal to 5 ppm,
- Tractor drivers and tractor co-pilots do not experience sensory irritation,
- Cartridges have been changed, and
- The air-fan dilution system is operating at a minimum of 1,600 revolutions per minute and producing a minimum flow rate of 3,000 cubic feet of air per minute.
- During the collection of air samples, a full-facepiece air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced, or where the sample(s) exceeded 5 ppm for

iodomethane or where sample(s) were greater than or equal to 1.5 ppm for chloropicrin.

For OPTION 2 (Operations ceased)

a) Tractor drivers and tractor co-pilots can **resume** operations if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive iodomethane breathing zone samples taken at the handling site 15 minutes apart must be less than 0.2 ppm,
- Tractor drivers and tractor co-pilots do not experience sensory irritation, and
- The air-fan dilution system is operating at a minimum of 1,600 revolutions per minute and producing a minimum flow rate of 3,000 cubic feet of air per minute.
- During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced.

3. Handlers in the Application Block 5 days (120 hours) after the Application is Complete until the Entry Restricted Period Expires

(Handlers are not required to start in half-face air-purifying respirators)

The *Air Monitoring Requirements* section above must be followed.

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) then either:
 - (OPTION 1) A full-facepiece air-purifying respirator must be worn by all handlers who remain in the application block, or
 - (OPTION 2) Operations must cease and handlers not wearing a full-facepiece air-purifying respirator must leave the application block.

For OPTION 1 (all handlers are wearing a full-facepiece air-purifying respirator)

a) Handlers can remove full-facepiece air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm.
- Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.2 ppm, and
- Handlers do not experience sensory irritation.
- During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced.

b) If at any time: (1) a handler experiences sensory irritation when wearing a full-facepiece air-purifying respirator, or (2) an iodomethane breathing zone sample is greater than 5 ppm, or (3) a chloropicrin breathing zone sample is greater than or equal to 1.5 ppm, then all handler activities must cease and handlers must be removed from the application block.

i. Handlers can **resume** operations **without** wearing full-facepiece air-purifying respirators if all of the following conditions exist:

- Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
- Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.2 ppm, and
- Handlers do not experience sensory irritation.
- During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced, or where the sample(s)

- exceeded 5 ppm for iodomethane or where sample(s) were greater than or equal to 1.5 ppm for chloropicrin.
- ii. Handlers can **resume** operations **with** full-facepiece air-purifying respirators if all of the following conditions exist:
 - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 1.5 ppm,
 - Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than or equal to 5 ppm,
 - Handlers do not experience sensory irritation, and
 - Cartridges have been changed.
 - During the collection of air samples, a full-facepiece air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced, or where the sample(s) exceeded 5 ppm for iodomethane or where sample(s) were greater than or equal to 1.5 ppm for chloropicrin.

For OPTION 2 (Operations ceased)

- a) Handlers can **resume** operations if all of the following conditions exist:
 - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
 - Two consecutive iodomethane breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.2 ppm, and
 - Handlers do not experience sensory irritation.
 - During the collection of air samples a full-facepiece air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation was first experienced.

Tarp Perforation and/or Removal

IMPORTANT: Persons perforating, repairing, removing, and/or monitoring tarps are defined, within certain time limitations, as handlers (see *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 perforation or removal, see **Early Tarp Removal for Broadcast Applications Only and Early Tarp Perforation during Flood Prevention Activities for Bedded Application Only** requirements.)
- Tarps that qualify for a buffer zone credit (See www.tarpcredits.epa.gov for the list of tarps) must not be perforated until a minimum of 10 days (240 hours) have elapsed after the application is complete, unless a weather condition exists which necessitates early perforation or removal, see **Early Tarp Removal for Broadcast Application Only and Early Tarp Perforation during Flood Prevention Activities for Bedded Application 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 and 2 consecutive iodomethane breathing zone samples taken at least 15 minutes apart are less than 5ppm..
- If the 2 consecutive iodomethane breathing zone samples indicate that iodomethane levels are:
 - o Less than 0.2 ppm and no sensory irritation is experienced, no respiratory protection is required to begin tarp removal.
 - o Between 0.2 ppm and 5 ppm, then an air-purifying respirator is required to begin tarp removal. See the *Respiratory Protection and Stop Work Triggers and Personal Protective Equipment* section for additional respiratory protection requirements.
- 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 application must be perforated.
- Tarps may be perforated manually ONLY for the following situations:
 - o At the beginning of each row when a coulter blade (or other device which performs similarly) is used on a motorized vehicle such as an ATV.
 - o In fields that are 1 acre or less.
 - o During flood prevention activities.
- In all other instances tarps must be perforated (cut, punched, poked, or sliced) only by mechanical methods.
- Tarp perforation for broadcast applications must be completed before noon.
- For broadcast applications, tarps must not be perforated if rainfall is expected within 12 hours.
- Early Tarp Removal for Broadcast Applications Only:
 - o Tarps may be removed before the required 5 days (120 hours) or 10 days (240 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 for Flood Prevention Activities for Bedded Application Only:
 - o Tarp perforation is allowed before the 5 (120 hours) or 10 days (240 hours) have elapsed.
 - o Tarps must be immediately retucked and packed after soil removal.

Entry Restricted Period and Notification

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 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:

- (1) "DANGER/PELIGRO"
- (2) "Areas under fumigation, DO NOT ENTER/NO ENTRE"
- (3) Iodomethane/Chloropicrin Fumigant In Use
- (4) Date and time of fumigation
- (5) Date and time entry restricted period is over
- (6) MIDAS 50:50, and
- (7) 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 the 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. All measurements and other documentation planned to ensure that the mandatory GAPs are achieved must be recorded in the FMP and/or post-application summary.

- MIDAS 50:50 must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent workers or other persons from coming in contact with the liquid.
- All hoses, piping, and tanks used in connection with this product shall be of a type appropriate for use under the pressure and vacuum conditions to be encountered.
- Hoses between any fumigant container and the flow divider must be Teflon® hoses reinforced with stainless steel wire braid or its equivalent.
- External sight gauges, if applicable, shall be equipped with a valve so that pipes to sight gauge can be shut off in case of breakage or leakage.
- The mechanical transfer system must be adequate to make necessary measurements of the pesticide being used.
- Shut-off devices must be installed on the exit end of all cylinder connections and at all disconnect points to prevent leakage of product when the transfer is stopped and hose is removed or disconnected.
- The pressure in hoses used to move the product must not exceed the manufacturer's maximum pressure specifications.
- Check equipment to ensure good condition and integrity prior to each use.

Tarps (tarps are required for all Midas 50:50 applications except for Tree Replant – Probe or Auger Applications). Tarps must be installed immediately after the fumigant is applied to the soil.

- 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.

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 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 Preparation

- Soil must be properly prepared and at the surface generally be free of large clods. The area to be fumigated must be tilled to a depth of at least 5 to 8 inches.
- Field trash must be properly managed. Residue from a previous crop must be worked into the soil to allow for decomposition prior to the start of the application. Little or no crop residue shall be present on the soil surface. Crop residue that is present must not interfere with the soil seal. Removing the crop residue prior to the start of the application is important to limit the natural "chimneys" that occur in the soil when crop 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 limit the efficacy of the fumigant. However, crop residue on the field serves to prevent soil erosion from both wind and water and is an important consideration. To accommodate erosion control, fumigant efficacy, and human health protection, clear fields of crop residue as close to the start of the application as possible to limit the length of time that the soil would be exposed to potentially erosive weather conditions.

Prior to All Applications:

- Ensure that application equipment does not contain components made of natural rubber, aluminum, magnesium or their alloys.

During All Applications:

- Do not change cylinders when the fumigant system is under pressure. Change cylinders with all cylinder valves in the off position.

Following All Applications:

- To minimize the potential for crop injury, allow the fumigant to dissipate before planting a crop. Seeds may be used as a bioassay to determine if MIDAS 50:50 is present in the soil at concentrations sufficient to cause plant injury.
- When using tarps, planting must not occur for at least 10 days after application is complete. See Tables 1 and 2 for planting requirements specific to the different application methods.
- When using tarps that qualify for buffer zone credits, planting must not occur for at least 14 days after the application is complete. See Table 1 for planting requirements specific to bed applications.
- Fumigation of highly acidic soils or those high in organic matter can cause ammonia toxicity to plants and/or elevated levels of soluble salts in the soil causing phytotoxicity. Analyze soil following fumigation and fertilize as indicated. Avoid those fertilizers using ammonium salts.

Mandatory Good Agricultural Practices (GAPS) for MIDAS 50:50 Bedded and Broadcast Shank Applications

In addition to the GAPs required for all Midas 50:50 soil fumigation applications, the following GAPs apply for bedded and broadcast shank injection applications:

Soil Preparation

- Allow time for complete voiding of material in the buried shanks following the closure of the shutoff valve and before removing the shanks from the soil.
- In the event that trash is pulled up with the shanks after completing a treatment pass, the trash must be covered with the tarp and the edges of the tarp must be buried under at least 4 inches of compacted soil before making the next pass through the field.

Soil Temperature

- The soil temperature at the depth of injection must not be less than 55° F or exceed 90° F at the beginning of the application.
- If air temperatures have been above 100° F in any of the three days prior to the start of the application, then soil temperature must be measured and recorded in the FMP. Record temperature measurements at the application depth.

Soil Moisture

- The soil must be moist 9 inches below the surface. The amount of moisture needed in this zone will vary according to soil type. Surface soil generally dries rapidly and must not be considered in this determination.
- Soil moisture must be determined using one of the following methods:
 - the USDA Feel and Appearance Method for testing (see below), or
 - an instrument, such as a tensiometer.
- Available water capacity must be equal to or greater than 50% for shank applications. If there is less than 50% available water capacity 9 inches below the surface, the soil moisture must be adjusted. If irrigation is not available and there is adequate soil moisture below 9 inches, soil moisture can be adjusted by discing or plowing before the start of the application. To conserve existing soil moisture, pretreatment irrigation or pretreatment tillage should be done as close to the time of application as possible.
- Measure soil moisture at a depth of 9 inches at either end of the field, no more than 48 hours prior to the start of the application.

The USDA Feel and Appearance Method for estimating soil moisture as appropriate for the soil texture:

- For **coarse** textured soils (fine sand and loamy fine sand) the soil is moist enough (50 to 75% available water capacity) to forms 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) the soil is moist enough (50 to 75% available water capacity) to forms 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) the soil is moist enough (50 to 75% available water capacity) to forms 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) the soil is moist enough (50 to 75% 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. Whenever possible, the field should 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 agent, soil conservationist, or pest control advisor (agriculture consultant) should be consulted for assistance.

Application Depth

- **For Tarped-Broadcast and Tarped-Bedded Applications:** The injection point must be a minimum of 6 inches from the nearest final soil/air interface. The application depth in preformed beds must not be below the bed furrow.

Prevention of End Row Spillage

- Do not apply or allow fumigant to spill onto the soil surface. For each injection line either have a check valve located as close as possible to the final injection point, or drain/purge the line of any remaining fumigant prior to lifting injection shanks from the ground.
- Do not lift injection shanks from the soil until the shut-off valve has been closed and the fumigant has been depressurized (passively drained) or purged (actively forced out via air compressor) from the system.

Calibration, Set-up, Repair, and Maintenance for Application Rigs

- Brass or stainless steel fittings must be used throughout. Polyethylene tubing, polypropylene tubing, Teflon® tubing or Teflon®-lined steel braided tubing must be used for all low pressure lines, drain lines, and compressed gas or air pressure lines. All other tubing must be Teflon®-lined steel braided.
- Galvanized, PVC, nylon or aluminum pipe fittings must not be used.
- All rigs must include a filter to remove any particulates from the fumigant, and for pressurized systems a check valve to prevent backflow of the fumigant into the pressurizing cylinder or the compressed air system.
- Rigs must include a flow meter or a constant pressure system with orifice plates to ensure the proper amount of fumigant is applied.
- To prevent the backflow of fumigant into the compressed gas cylinder (eg, nitrogen, other inert gas, compressed air), if used, applicators must:
 - When applying MIDAS 50:50 from steel cylinders using compressed gas, ensure that positive pressure is maintained in the cylinder at not less than 80 psi during the entire time it is connected to the application rig, (*This is not required for a compressed air system that is part of the application rig because if the compressor system fails the application rig will not be operable*).
 - When applying MIDAS 50:50 from drum-in-drum poly-totes using compressed gas, maintain a positive pressure of not less than 35 psi during the entire time it is connected to the application rig. (*This is not required for a compressed air system that is part of the application rig because if the compressor system fails the application rig will not be operable*).
 - Ensure that application rigs are equipped with properly functioning check valves between the compressed gas cylinder or compressed air system and the fumigant cylinder. The check valve is best placed on the outlet side of the pressure regulator, and is oriented to only allow compressed gas to flow out of the cylinder or compressed air out of the compressed air system.
 - A pressure relief valve must be installed between the regulator and the check valve to ensure a regulator failure does not over pressurize the fumigant cylinder.
 - Always pressurize the system with compressed gas or by use of a compressed air system before opening the fumigant cylinder valve.
- 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 and screen checks, if installed.
 - Pressurize the system with compressed gas or compressed air, and check all fittings, valves, and connections for leaks using soap solution.
- Install the fumigant cylinder, and connect and secure all tubing. Slowly open the compressed gas or compressed air valve, and increase the pressure to the desired level. Slowly open the fumigant cylinder valve, always watching for leaks.
- When the application is complete, close the fumigant cylinder valve and blow residual fumigant out of the fumigant lines into the soil using compressed gas or compressed air. If the rig uses a centrifugal pump instead of compressed gas to inject fumigant into the soil, you may clear

residual fumigant from the fumigant lines using an application wand connected to the system's low point via a drain hose. Place the wand in the soil until all residual fumigant has drained from the system. The wand and drain hose must be free of dirt to allow proper drainage. At the end of the application season, disconnect all fumigant cylinders from the application rig. At the end of the season, seal all tubing openings with tape to prevent the entry of insects and dirt.

Application equipment must be calibrated and all control systems must be working properly. Proper calibration is essential for application equipment to deliver the correct amount of fumigant uniformly to the soil. Refer to the manufacturer's instructions on how to calibrate your equipment, usually the equipment manufacturer, fumigant dealer, or Cooperative Extension Service can provide assistance.

Soil Sealing

Raised Bed Applications

- Use tractor mounted chisels spaced no more than 12 inches apart. Injection spacing of 12 inches or less is typically performed with a multiple shank applicator. The treated ground must be sealed using either:
 - Soil sealing at time of application: The treated ground must be sealed using closing shoes, roller, compaction roller, cultipacker, or other equivalent equipment that will sufficiently cover chisel marks left after soil injection. The equipment shall cover the chisel marks with soil immediately prior to placement of the tarp (with fumigant injection) by tarp-laying equipment mounted on the application tractor; or
 - Bed shaper: The chisels shall be placed with the injection point under the bed shaper, and the tarp shall be laid down simultaneously (with fumigant injection) by tarp-laying equipment mounted on the application tractor; or
 - Combination bed former and bed shaper: The chisels shall be placed between the bed former and the bed shaper. The tractor with the tarp-laying equipment shall immediately follow the application tractor.

Broadcast/Flat Fume Applications

- Use tractor mounted chisels spaced no more than 12 inches apart.
 - Soil sealing at time of application: The treated ground must be sealed using closing shoes, roller, compaction roller, cultipacker or other equivalent equipment that will sufficiently cover chisel marks left after soil injection. The equipment shall cover the chisel marks with soil immediately prior to placement of the tarp (with fumigant injection) by tarp-laying equipment mounted on the application tractor.

Tree Replant – Probe or Auger Application: Mandatory GAPs

This application method is used when MIDAS 50:50 is applied to individual tree sites in an existing orchard where shank applications are not possible.

In addition to the GAPs required for all MIDAS 50:50 soil fumigation applications, the following GAPs apply for MIDAS 50:50 tree replant – probe or auger applications:

Site Preparation

- Remove the tree stump and primary root system in each individual tree-site with a back-hoe or other similar equipment, for example an auger.
- The hole must be backfilled with soil before application.

Application Depth

- The fumigant must be injected at least 18 inches into the soil, typically between 18 and 36 inches.

System Flush

- Before removing the application wand from the soil the wand must be cleared using nitrogen or compressed air.

Soil Sealing

- After the wand is cleared and removed from the soil, the injection hole must be either covered with soil and tamped or the soil must be compacted over the injection hole.

MIDAS 50:50 Pre-Plant Field Fumigation Methods

Fumigation with MIDAS 50:50 shall only be performed in accordance with the following three application techniques: 1) Raised Bed Application, 2) Broadcast/Flat Fume Application, or 3) Tree Replant – Probe or Auger Application (stone fruit, nut trees, vines, and field-grown ornamentals only). Application methods and rates of application for each of these methods are discussed in detail below.

Application Rates for Raised Bed Fumigation: Rates in the table below are given in pounds of MIDAS 50:50 per broadcast acre. The amount of product applied will be proportionate to the row spacing and width of the raised bed. To calculate the amount of product to be applied, multiply the application rate in lbs MIDAS 50:50/broadcast acre by the appropriate modifier from the Field Rate Modifier Table provided below, e.g., 350 lbs MIDAS 50:50/broadcast acre * 0.50 = 175 lbs MIDAS 50:50/treated acre.

Table 1.

APPLICATION RATES FOR RAISED BED APPLICATIONS		
Crop	MIDAS 50:50 (pounds or gallons of product per treated acre) ¹	Time Between Application and Planting ²
Field-Grown Ornamentals Peppers Strawberries Tomatoes	Tarps 200 - 350 lbs/ treated acre (12.6 - 22 gal/ treated acre)	10 - 14 days
	Tarps that Qualify for Buffer Zone Credits³ 150-200 lbs/ treated acre (9.4 - 12.6 gal/ treated acre)	14 - 21 days when using tarps that qualify for buffer zone credits
NOTE: ¹ For fields infested with Nutsedge and Malva, apply a minimum of 300 lbs/treated acre (18.9 gal/treated acre) of MIDAS 50:50 with tarps and 160 lbs/treated acre (10.1 gal/treated acre) with tarps that qualify for buffer zone credits. ² Use the longer planting restriction period under conditions of high soil moisture, heavy soils, or rain. ³ Contact your Arysta LifeScience representative for tarp selection and rate reduction recommendations.		

Table 2

APPLICATION RATES FOR BROADCAST/FLAT FUME FUMIGATION WITH TARPS		
Crop	MIDAS 50:50 (pounds or gallons of product per treated acre) ¹	Time Between Application and Planting
Field-Grown Ornamentals Peppers Strawberries Tomatoes Turf	200 - 350 lbs/treated acre (12.6 - 22 gal/treated acre)	10 - 14 days
Stone Fruits (Apricot, Sweet Cherry, Tart Cherry, Nectarine, Peach, Plum, Chickasaw Plum, Damson Plum, Japanese Plum, Plumcot, Fresh Prune) Tree Nuts (Almond, Beech Nut, Brazil Nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory Nut, Macadamia Nut (Bush Nut), Pecan, Pistachio, Black Walnut, English Walnut) Vines (Table, Raisin and Wine Grapes)	240 - 350 lbs/treated acre (15.1 - 22 gal/ treated acre)	10 - 14 days
Nurseries (including strawberries, stone fruits, tree nuts and conifer trees)	350 lbs/treated acre (22 gal/treated acre)	10 - 14 days
NOTE: ¹ For fields infested with Nutsedge and Malva apply a minimum of 300 lbs/treated acre (18.9 gal/treated acre) of MIDAS 50:50.		

Application Rates for Broadcast/Flat Fume Fumigation with Tarps that Qualify for Buffer Zone Credits

Contact your Arysta LifeScience North America representative for information on tarp selection and rate reduction recommendations for highly retentive tarps. Applications using tarps that qualify for buffer zone credits shall not exceed 200 lbs/treated acre (12.6 gal/treated acre).

Tree Replant – Probe or Auger Application: For Stone Fruit Trees, Tree Nuts, Vines, and Field Grown Ornamental Trees and Shrubs, use 1 – 1.5 lbs of MIDAS 50:50 per injection site. Use 1 injection site per 100 square feet (i.e., one injection site every 10 feet in a standard grid pattern). Planting or replanting of Stone Fruit Trees, Tree Nuts, Vines, and Field Grown Ornamental Trees and Shrubs may begin 14 days after the application is complete. DO NOT PLANT if the odor of chloropicrin is detectable.

Do not treat more than 230 trees/shrubs/vines per acre per day.

Rotational Crops

Food/feed crops other than strawberry, tomatoes and peppers require a 4 month plant back rotation restriction from the date of fumigant application. Crop rotation to non-food crops or non-bearing fruit or nut trees is not restricted.

CALCULATING THE BROADCAST EQUIVALENT APPLICATION RATE

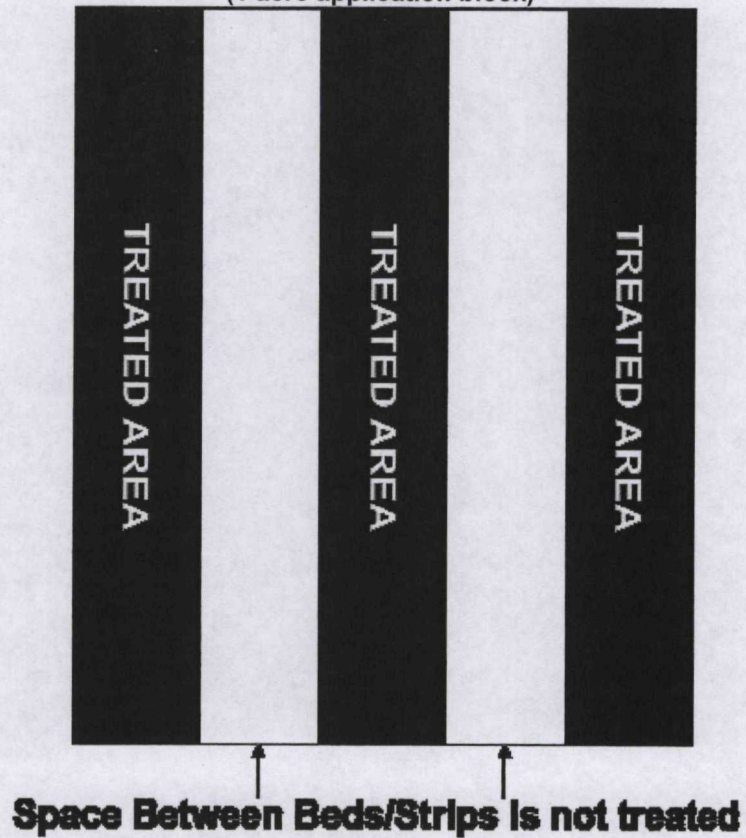
To calculate the broadcast equivalent rate for bedded or strip applications the following information is needed:

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

Pounds (or 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)

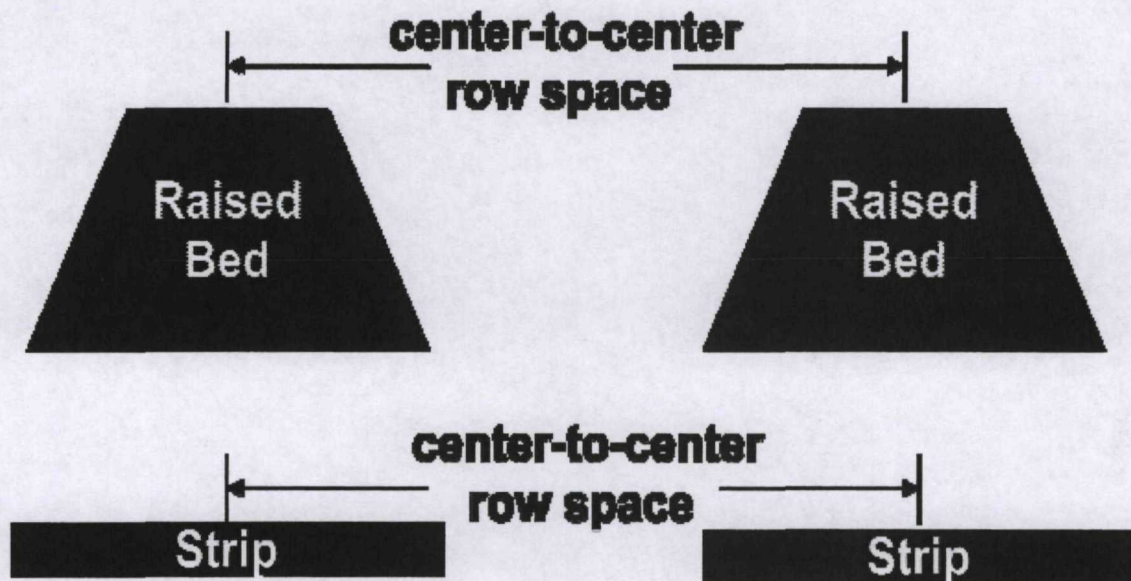


The "broadcast equivalent rate" must be calculated with the following formula:

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

- 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.

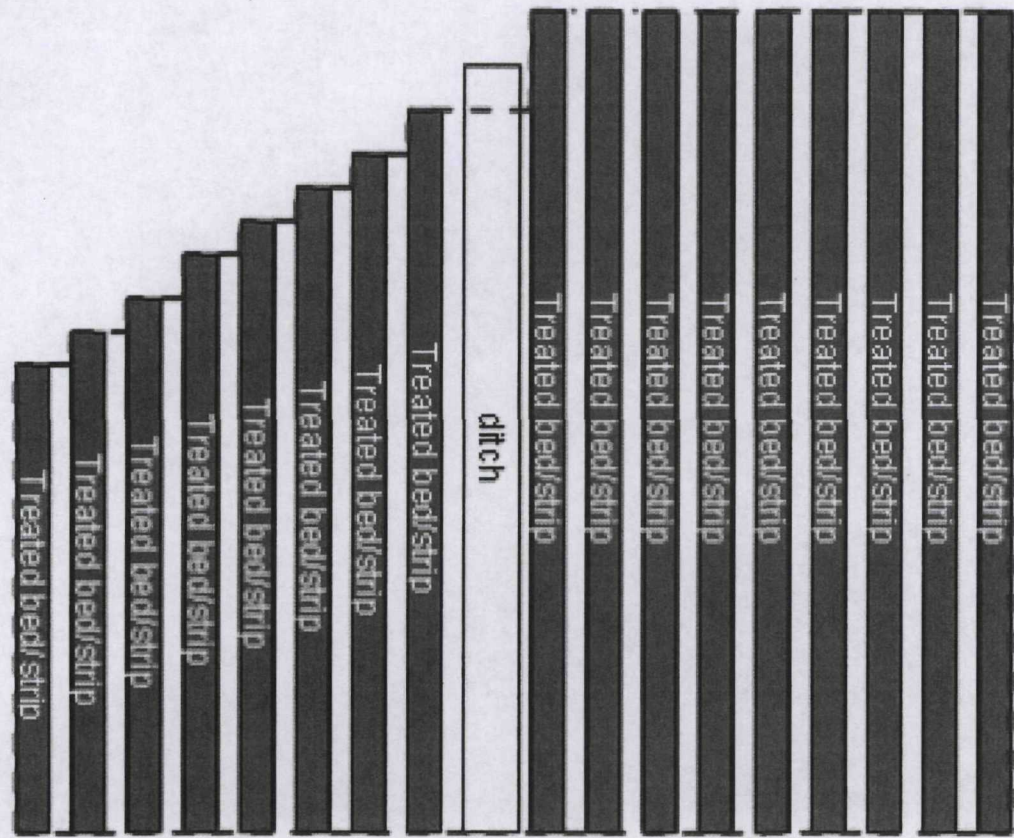
Figure 2. Center Row Spacing



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



$$\begin{aligned}
 \text{broadcast equivalent rate (pounds product/acre)} &= \frac{\text{strip or bed bottom width (inches)}}{\text{center-to-center row spacing (inches)}} \times \frac{\text{area of strips or beds + row spacing application block size}}{\text{application block size}} \times \text{pounds product/ treated acre applied in the bed} \\
 &= \frac{30 \text{ inch width beds}}{60 \text{ inch row spacing}} \times \frac{9.75 \text{ acres}}{10 \text{ acres}} \times 200 \text{ pounds product/ treated acre} \\
 &= 97.5 \text{ pounds product/acre}
 \end{aligned}$$

Buffer Zone Requirements

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

- The buffer zone must extend outward from the edge of the application block perimeter equally in all directions.
- Buffer zones for application blocks treated with iodomethane must not overlap during the buffer zone periods.
- 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 Exemption for Transit on Roadways*).
 1. 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.

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:
 1. The storage buildings are not occupied during the buffer zone period, and
 2. 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,
 - o The buffer zone period has ended, and
 - o 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 an iodomethane buffer zone from any other property owners, 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 Exemption 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.

Determining Buffer Zone Distance

- 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).
- Use Tables 3 and 4 as appropriate for the methods of application to determine the minimum buffer distances. Round up to the nearest rate and block size, where applicable. Applications are prohibited for rates and block sizes that exceed what is presented in the buffer zone tables.

Table 3. Midas 50:50 Broadcast Application Buffer Zone Distances in Feet

Midas 50:50 Broadcast Application Equivalent Rate (lbs product/acre)	Application Block Size (acres)							
	Up to 5 acres	6-10 acres	11-15 acres	16-20 acres	21-25 acres	26-30 acres	31-35 acres	36-40 acres
125	25	36	68	99	117	131	149	162
150	25	41	81	117	140	158	176	194
175	25	45	90	135	158	180	203	225
200	27	54	108	158	185	212	239	261
210	27	54	108	162	189	216	243	270
240	32	63	126	189	221	252	284	311
300	41	81	158	234	275	311	351	387
350	45	90	180	300	315	360	405	450

Table 4. Midas 50:50 Bed Application Buffer Zone Distances in Feet

Midas 50:50 Bed Application Broadcast Equivalent Rate (lbs product/acre)	Application Block Size (acres)							
	Up to 5 acres	6-10 acres	11-15 acres	16-20 acres	21-25 acres	26-30 acres	31-35 acres	36-40 acres
125	25	40	75	110	130	145	165	180
150	25	45	90	130	155	175	195	215
175	25	50	100	150	175	200	225	250
200	30	60	120	175	205	235	265	290
210	30	60	120	180	210	240	270	300
240	35	70	140	210	245	280	315	345
300	45	90	175	260	305	345	390	430
315	47	95	185	275	320	365	410	450

Buffer Zone for Tree Replant – Probe or Auger Applications

- 25 feet if the application rate is less than 100 lbs MIDAS 50:50 per acre.
- 50 feet if application rate is 100 to 249 lbs MIDAS 50:50 per acre, and
- 100 feet if the application rate is 250 to 350 lbs MIDAS 50:50 per acre.

Buffer Zone Credits

The buffer zone distances for Midas 50:50 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 in 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 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 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/index.htm
 - The Buffer Zone signs must contain the following information:
 - The 'Do Not Walk' symbol
 - DO NOT ENTER/NO ENTRE,
 - Iodomethane/Chloropicrin Midas 50:50 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 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 48-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**, 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, or

- an air sample is greater than or equal to 0.2 ppm for iodomethane.

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,
 - 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 supervising the application 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
 - Symmetry™ application system
 - Organic matter content
 - Clay content
 - 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
 - Protective eyewear (not goggles)
 - Chemical-resistant gloves
 - Air-purifying respirators
 - Respirator make, model, type, style, size, and cartridge type
 - SCBAs
 - Respirator make, model, type, style, size
 - 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: www.epa.gov/fumigantraining for the active ingredient(s) in this product.
 - For handlers designated to wear respirators (air-purifying respirator or SCBA):
 - 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 2 handlers have the appropriate respirators and cartridges during handler activities, and
 - the employer has confirmed that the appropriate respirator and cartridges are immediately available for each handler who will wear one.
- Air-Fan Dilution System: Verification that the fan/blower intake is at least 126 inches from the ground, and the fan/blower is capable of operating at a minimum of 1,600 revolutions per minute and producing a minimum flow rate of 3,000 cubic feet of air per minute. **(USING AIR-FAN DILUTION SYSTEM IN LIEU OF A HALF-FACE AIR-PURIFYING RESPIRATOR IS NOT ALLOWED IN THE STATE OF FLORIDA.)**
- 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.
 - For monitoring after tarp perforation is complete and before tarp removal begins, indicate:
 - Monitoring equipment to be used, and
 - Timing of 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 application. 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 appropriate 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 appropriate 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.

Spill and Leak Procedures

- For entry into the affected area to correct problems, wear the personal protective equipment specified in the *Personal Protective Equipment (PPE)* section on this labeling.
- Cease all operations if any leak develops in the fumigation system.
- Evacuate everyone from the immediate area of the spill or leak.
- Approach the area from the upwind side. Work upwind to repair leak(s), if possible.
- Only correctly trained and PPE-equipped handlers are permitted to enter. Do not permit entry into the spill or leak area by any other person until the concentration of chloropicrin is measured to be less than 0.15 ppm and the concentration of iodomethane is measured to be less than 0.2 ppm.
- Allow spilled fumigant to evaporate or to absorb onto vermiculite, dry sand, earth, or similar absorbent material.
- Contaminated soil, water and other cleanup debris may be hazardous waste. Dispose of contaminated material on site or at an approved waste disposal facility.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a dry, cool, well-ventilated area under lock and key. When appropriate to prevent tipping, store cylinders upright, secured to a rack or wall. Post as a pesticide storage area.

Handling: Product cylinders shall not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging or sliding. Do not use rope slings, hooks, tongs, or similar devices to unload cylinders. Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured.

Do not remove valve protection bonnet and safety cap until immediately before use. When cylinder is not in use, close valve by turning clockwise until hand tight, screw safety cap onto valve outlet, and replace protection bonnet.

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

Container Disposal

Return of Containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. This pesticide container, whether full or partially used, is the property of the manufacturer or distributor where it was purchased and must be returned to the distributor of origin. Do not ship containers without safety caps or valve protection bonnets. Containers shall never be refilled by the consumer or used for any other product or purpose.

FOR 24-HOUR CHEMICAL EMERGENCY (spill, leak, fire or accident) ASSISTANCE:
Call CHEMTREC at 1-800-424-9300

WARRANTY AND DISCLAIMER STATEMENT

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America, LLC ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

Arysta warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

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