

66330-57

11/17/2010

Jacket 1 of 73



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Rodney Akers, Ph.D.  
Regulatory Manager  
Arysta LifeScience North America, LLC.  
15401 Weston Parkway, Suite 150  
Cary, NC 27513

NOV 17 2010

Subject: Midas 50:50  
EPA Reg. No. 66330-57  
Your amendment dated October 15, 2010  
EPA Decision Number 441421

Dear Dr. Akers:

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended is acceptable. One copy of the label stamped "Accepted" is enclosed for your records. Please submit one copy of the final printed label before the product is released for shipment.

If you have any questions, you may contact by phone at (703) 308-9354 or via email at [waller.mary@epa.gov](mailto:waller.mary@epa.gov)

Sincerely,

A handwritten signature in cursive script that reads "Mary L. Waller".

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

Enclosure

**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 three different labels due to state requirements:**

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

**MIDAS 50:50**

**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).

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**

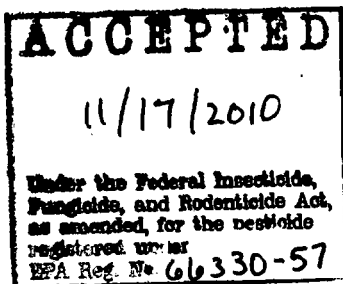
**Produced for:**

Arysta LifeScience North America, LLC

15401 Weston Parkway, Suite 150

Cary, NC 27513

NET WEIGHT: \_\_\_\_\_



**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 FLORIDA AND 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).

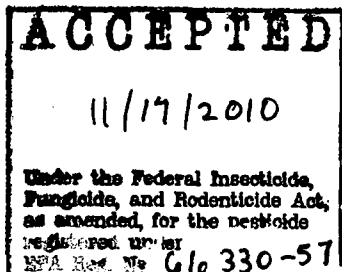
**KEEP OUT OF REACH OF CHILDREN  
DANGER/PELIGRO**

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).

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
<b>HOT LINE NUMBERS</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. <b>FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952 or 1-651-632-8946</b>	
<b>NOTE TO PHYSICIAN</b>	
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

### 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 liquid contact potential, **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 and 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 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C).
- 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 1: *Handlers Wearing Half-Face Air-Purifying Respirators*, for when a full-face respirator is required.

**When not performing tasks with liquid contact potential, all handlers (including applicators) present in either the application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period) until 5 days (120 hours) after the application is complete (i.e., after soil has been sealed) or the buffer zone during the buffer zone period (see exception for transient travel in the Buffer Zone section) 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 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C).

- 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 1: *Handlers Wearing Half-Face Air-Purifying Respirators*, for when a full-face respirator is required.
- For tractor drivers and tractor co-pilots the following can be used in lieu of a half-face air-purifying respirator:
  - 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, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 2: *Air-Fan Dilution Equipment*, for when a full-face respirator is required.
- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Iodomethane and chloropicrin are heavier than air and can be trapped inside clothing and cause skin injury.

**When not performing tasks with liquid contact potential, all handlers (including applicators) present in the application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period) 5 days (120 hours) after the application is complete (i.e., after soil has been sealed) 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, 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-face respirator is required.
- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Iodomethane and chloropicrin are heavier than air and can be trapped inside clothing and cause skin injury.

**IMPORTANT:** A self-contained breathing apparatus (SCBA) is not permitted for routine handler tasks. Wear an SCBA and PPE required for liquid contact potential in emergencies such as a spill or leak or when corrective action is needed to reduce air levels to acceptable levels.

#### **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. 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).

**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**

**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 protected handlers may be in the area during the application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), restricted entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

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 Hazards to Humans and Domestic Animals section of this labeling.

**HANDLERS**

The following activities are prohibited from being performed in the application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period) by anyone other than persons who have been appropriately trained and equipped as handlers in accordance with the requirements in the Worker Protection Standard (40 CFR Part 170), from the start of the application until the entry restricted period ends (NOTE: persons installing, perforating, removing, repairing, and monitoring tarps are considered handlers for the durations listed below). Those activities include those persons:

- Participating in the application as supervisors, loaders, drivers, tractor co-pilots, shovelers, cross ditchers, or as other direct application participants (the application starts when the fumigant is first

introduced into the soil and ends after the fumigant has stopped being delivered/dispensed to the soil);

- Using devices to take air samples to monitor fumigant air concentrations;
- Cleaning up fumigant spills (this does not include emergency personnel not associated with the fumigation application);
- Handling or disposing of fumigant containers;
- Cleaning, handling, adjusting, or repairing the parts of fumigation equipment that may contain fumigant residues;
- Installing, repairing, operating, or removing irrigation equipment in the fumigant application block;
- Entering the application site to perform scouting, crop advising, or monitoring tasks;
- Installing, perforating (cutting, punching, slicing, poking), removing, repairing, or monitoring tarps:
  - until 14 days after application is complete if tarps are not perforated and removed during those 14 days, or
  - until tarp removal is complete if tarps are **both** perforated **and** removed less than 14 days after application, or
  - until 48 hours after tarp perforation is complete if they will not be removed within 14 days after application.

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

- Performing any handling tasks as defined by the WPS.

## PROTECTION FOR HANDLERS

### Respiratory Protection and Stop Work Triggers

#### 1. Handlers Wearing Half-Face Air-Purifying Respirators

The following procedures must be followed to determine whether a full-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent, is required or if operations must cease for handlers wearing a half-face air-purifying respirator:

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) while wearing a half-face air-purifying respirator:
  - A full-face air-purifying respirator must be worn by all handlers who remain in the application block and/or buffer zone, **or**
  - Operations must cease and handlers not wearing full-face air-purifying respirators must leave the application block and/or buffer zone.
- When full-face air-purifying respirators are worn, then air-monitoring samples for chloropicrin must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task.
- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Matheson-Kitagawa, Dräger, or Sensidyne device must be used. The devices must have a sensitivity of at least 0.15 ppm for chloropicrin.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a ten inch radius of the handler's nose and mouth.
- If at any time (1) a handler experiences any sensory irritation when wearing a full-face air-purifying respirator; or (2) an air 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 buffer zone. If operations cease, the emergency plan detailed in the FMP must be implemented.
- Handlers can remove full-face air-purifying respirators or resume work activities if the following conditions exist provided that a half-face air-purifying respirator is worn:
  - Two consecutive breathing zone samples for chloropicrin taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
  - Handlers do not experience sensory irritation, and
  - Air-purifying respirator cartridges have been changed.
  - During the collection of air samples a full-face air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.

## 2. Air Fan Dilution Equipment

The following procedures must be followed to determine whether a full-face air-purifying respirator is required or if operations must cease for tractor drivers and tractor co-pilots using a tractor equipped with a working-area air-fan dilution system:

- If at any time tractor drivers and/or tractor co-pilots experience sensory irritation (tearing, burning of the eyes or nose) then either:
  - A full-face air-purifying respirator must be worn by all tractor drivers and tractor co-pilots who remain in the application block and/or buffer zone or
  - Operations must cease and tractor drivers and tractor co-pilots not wearing full-face air-purifying respirators must leave the application block and/or buffer zone.
- Tractor drivers and co-pilots can remove full-face air-purifying respirators or resume operations if all of the following conditions exist:
  - Two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show levels of chloropicrin have decreased to less than 0.15 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-face air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.
- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Matheson-Kitagawa, Dräger, or Sensidyne device, must be used. The devices must have a sensitivity of at least 0.15 ppm for chloropicrin.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a ten inch radius of the handler's nose and mouth.
- When full-face air-purifying respirators are worn, then air monitoring samples must be collected at least every two hours in the breathing zone of a representative tractor driver or tractor co-pilot.
- If at any time (1) a tractor driver and/or tractor co-pilot experiences any sensory irritation when wearing a full-face air-purifying respirator, or (2) an air 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/or buffer zone. If operations cease, the emergency plan detailed in the FMP must be implemented.
- Tractor drivers and co-pilots can resume work activities without full-face air-purifying respirators if all of the following conditions exist:
  - Two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show levels of chloropicrin have decreased to less than 0.15 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-face air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.
- Work activities can resume if all of the following conditions exist provided that a full-face air-purifying respirator is worn:
  - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 1.5 ppm, but are greater than 0.15 ppm,
  - Tractor drivers and tractor co-pilots do not experience sensory irritation while wearing the full-face air-purifying respirator,
  - Respirator 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-face air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.



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

The following procedures must be followed to determine whether a full-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent, is required or if operations must cease for handlers in the application block after the application is complete

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) then either:
  - A full-face air-purifying respirator must be worn by all handlers who remain in the application block or
  - Operations must cease and handlers not wearing respiratory protection must leave the application block.
- Handlers can remove full-face air-purifying respirators or resume operations if two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show that levels of chloropicrin have decreased to less than 0.15 ppm provided that handlers do not experience sensory irritation. During the collection of air samples, a full-face air-purifying respirator must be worn by the handler taking air samples. Samples must be taken where the sensory irritation is first experienced.
- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Matheson-Kitagawa, Dräger, or Sensidyne device, must be used. The devices must have a sensitivity of at least 0.15 ppm for chloropicrin.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a ten inch radius of the handler's nose and mouth.
- When full-face air-purifying respirators are worn, then air monitoring samples must be collected at least every two hours in the breathing zone of a handler performing a representative handling task.
- If at any time (1) a handler experiences any sensory irritation when wearing a full-face air-purifying respirator, or (2) an air 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. If operations cease, the emergency plan detailed in the FMP must be implemented.
- Handlers can resume work activities without full-face air-purifying respirators if two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show levels of chloropicrin have decreased to less than 0.15 ppm, provided that handlers do not experience sensory irritation. During the collection of air samples a full-face air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.
- Work activities can resume if all of the following conditions exist provided that a full-face air-purifying respirator is worn:
  - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 1.5 ppm, but are greater than 0.15 ppm,
  - Handlers do not experience sensory irritation while wearing the full-face air-purifying respirator, and
  - Cartridges have been changed.
  - During the collection of air samples, a full-face air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.

#### Supervision of Handlers

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

For handling activities that take place after the fumigant has been delivered/dispensed into the soil until the entry restricted period expires, the Certified Applicator does not have to be on-site, but must have communicated, in a manner that can be understood, to the site owner/operator and handlers responsible for carrying out those activities the information necessary to comply with the label and procedures

described in the FMP (e.g., emergency response plans and procedures). Communication activities must be captured in the FMP.

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

The certified applicator must provide **Fumigant Safe Handling** information to each handler involved in the application or confirm that each handler participating in the application has received **Fumigant Safe Handling** information in a manner they can understand within the past twelve months. **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 trained under the provisions of the WPS 40 CFR 170.230 must be present.

**Respirator Fit Testing, Medical Qualification, and Training**

Employers must verify that any handler who uses a respirator is:

- Fit-tested and fit-checked using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134)
- Trained using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134)
- Examined by a qualified medical practitioner to ensure physical ability to safely wear the style of respirator to be worn. A qualified medical practitioner is a physician or other licensed health care professional who will evaluate the ability of a worker to wear a respirator. The initial evaluation consists of a questionnaire that asks about medical conditions (such as a heart condition) that would be problematic for respirator use. If concerns are identified, then additional evaluations, such as a physical exam, might be necessary. The initial evaluation must be done before respirator use begins. Handlers must be reexamined by a qualified medical practitioner if their health status or respirator style or use-conditions change. Upon request by local/state/federal/tribal enforcement personnel, employers must provide documentation demonstrating how they have complied with these requirements.

**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**

At a minimum two handlers must have the appropriate air-purifying respirator and cartridges available and these handlers must be fit-tested, trained, and medically examined.

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

Cartridges or canisters must be replaced when odor or irritation from this product becomes apparent, if the measured concentration of chloropicrin is greater than or equal to 1.5 ppm, or after 8 hours of use, whichever occurs first.

**AVAILABILITY OF RESPIRATORS FOR EMERGENCIES**

The employer of any handler must confirm that at least one self-contained breathing apparatus (SCBA) is on-site and is ready for use in case of an emergency. This must be documented in the FMP.

**Exclusion of Non-Handlers from Application Block:**

The Certified Applicator supervising the application and the owner/operator of the establishment where the fumigation is taking place must make sure that all persons who are not trained and PPE-equipped

and who are not performing one of the handling tasks as stated in this labeling are excluded from the application block during the entry restricted period and from the buffer zone during the buffer zone period.

**Entry Restricted Period**

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

- 5 days (120 hours) after the application is complete for untarped applications, or
- 5 days (120 hours) after application is complete if tarps are not perforated and removed for at least 14 days following application, NOTE: Persons installing, repairing, or monitoring tarps are handlers until 14 days after the application is complete if tarps are not perforated and removed during those 14 days, or
- 48 hours after tarp perforation is complete if tarps will not be removed for at least 14 days following application, or
- Tarp removal is completed if tarps are both perforated and removed less than 14 days after application.

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

**Notification**

Notify workers of the application by warning them orally and by posting Fumigant Treated Area signs. The Fumigant Treated Area 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, size and timing of posting and removal.

Post the Fumigant Treated Area signs at all entrances to the application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period.)

**Tarp Perforation and/or Removal**

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

- Standard tarps must not be perforated until a minimum of 5 days (120 hours) have elapsed after the fumigant injection into the soil is complete (e.g., after tarps have been laid), unless a weather condition exists which necessitates early perforation or removal, see **Early Tarp Removal for Broadcast Applications Only and Early Tarp Perforation for Flood Prevention Activities** sections. Highly retentive tarps (on an Arysta approved list) must not be perforated until a minimum of 10 days (240 hours) have elapsed after the fumigation injection into the soil is complete.
- If tarps will be removed before planting, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps will not be removed before planting, planting or transplanting must not begin until at least 48 hours after the tarp perforation is complete.

- If tarps are left intact for a minimum of 14 days after fumigant injection into the soil is complete, planting or transplanting may take place while the tarps are being perforated.
- Each tarp panel used for broadcast fumigation must be perforated.
- Tarps used for fumigations may be perforated manually **ONLY** for the following situations:
  - At the beginning of each row when a coulter blade (or other device which performs similarly) is used on a motorized vehicle such as an ATV.
  - In fields that are 1 acre or less.
  - During flood prevention activities.
- In all other instances tarps must be perforated (cut, punched, poked, or sliced) only by mechanical methods.
- Tarp perforation for broadcast fumigations must be completed before noon.
- For broadcast fumigations, tarps must not be perforated if rainfall is expected within 12 hours.
- **Early Tarp Removal for Broadcast Applications Only:**
  - Tarps may be removed before the required 5 days (120 hours) 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.
  - If tarps are removed before the required 5 days (120 hours) or 10 days (240 hours) have elapsed due to adverse weather, the events must be documented in the post-application summary.
- **Early Tarp Perforation for Flood Prevention Activities**
  - Tarp perforation is allowed before the 5 or 10 days have elapsed.
  - Tarps must be immediately retucked and packed after soil removal.

### Buffer Zone

The area adjacent to the treated area is referred to as the buffer zone. The buffer zone shall extend from the edge of the treated area in all directions. See Buffer Zone Table. The minimum buffer zone distance shall be 25 feet.

The Certified Applicator supervising the soil fumigation is responsible for the following:

1. Calculating the appropriate size of the buffer zone that must be maintained from the start of the application until 48 hours following the end of the application;
2. Establishing and maintaining the buffer zone from the start of the application until 48 hours following the end of the application. The Certified Applicator must use an appropriate means to manage and maintain the buffer zone such as posting Buffer Zone signs around the perimeter of the buffer zone at potential points of entry, using trained workers to patrol the buffer zone, or other equivalent means. If Buffer Zone signs are used, they must be posted from the start of the application until 48 hours following the end of the application and must be removed within 3 days of the end of the buffer zone period. The Buffer Zone signs must include the same warning symbol and statements required for Fumigant Treated Area signs as stated on this label with the exception that signs will indicate "Fumigant Buffer Zone" at the top of the sign and will delete the statement "areas under fumigation".
3. Ensuring that unprotected workers and bystanders do not enter the buffer zone, from the start of the application until 48 hours following the end of the application. Exception: Unprotected workers and bystanders may travel through (but not engage in any activity in) the buffer zone during the application and the 48-hour period following the end of the application, provided their total exposure time in any 24-hour period is 15 minutes or less. However, travel by unprotected workers or bystanders through the fumigated area itself is prohibited during the entire Entry Restricted period. Handlers protected with required Personal Protective Equipment (PPE) may work in buffer zones. See the PERSONAL PROTECTIVE EQUIPMENT section.
4. Ensuring application site has a distinctive buffer zone. The buffer zone of the field to be treated cannot overlap the buffer zone of another field treated within the last 48 hours.

- Ensuring that there are no occupied nursing homes, hospitals, or prisons; and no occupied licensed schools, licensed day care facilities and licensed assisted living facilities (licensed by state or local governments) within ¼ mile of the fumigated area during the buffer zone period.

**Determining Buffer Zone Distance**

- Determine the size of the buffer zone using the following Buffer Zone Table.
- The size of the buffer zone will be dependent on the following three factors:
  - The number of field acres that are being treated with MIDAS 50:50.
  - The pounds of MIDAS 50:50 that are being applied per treated acre.
  - Buffer zone reduction credits.

**Buffer Zone Table**

MIDAS 50:50 Application Rate (Lbs per Treated Acre)	SIZE OF FIELD IN ACRES (Buffer zone distance in feet) <sup>1,2</sup>							
	Up to 5 Acres	6 – 10 Acres	11-15 Acres	16- 20 Acres	21-25 Acres	26-30 Acres	31-35 Acres	36-40 <sup>3</sup> 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
350	50	100	200	300	350	400	450	500

1. For rates not listed on this table, use the buffer zone for the next highest rate, or use the following calculation to determine the exact buffer zone:

$$\text{Buffer Zone for Application Rate Not Listed} = \frac{\text{Known Buffer Zone on Table} \times \text{Application Rate Not Listed}}{\text{Rate of Application for Known Buffer Zone}}$$

**2. Buffer Zone Reduction Credits:**

Reduce buffer zone by 10% for each factor listed below:

- Use of flat fume / broadcast application
- Use of Highly Retentive tarps. Highly Retentive tarps for which credit can be applied must be on an Arysta approved list. Examples of Arysta approved tarps are Canslit Brand Metalized 1.3 ml, Pliant Blockade® VIF 1.25 ml, and Pliant Metalized 1.0-1.25.
- Application to soils having >3% organic matter. Refer to the USDA or USGS Soil Survey Maps for the treated area that identify the range of organic matter and / or a documented soil survey report that lists range of % organic matter for the treated area. Collection of samples for analysis of soil in the treated area should follow procedures as per USDA's Natural Resource Conservation Services methods. Information on soil sampling can be found at [www.soil.usda.gov](http://www.soil.usda.gov).

For example, if the Buffer Zone is 50 feet and the application qualifies for a buffer zone reduction credit such as use of Metalized tarps, then the buffer zone can be reduced by 10%, i.e., reduced by 5 feet based on the following calculation: 50 ft – (50 ft X 10%) = 45 feet.

If the application qualifies for two buffer zone reduction credits such as use of a highly retentive tarps and soil with >3% organic matter, then the buffer zone can be reduced by 20%, i.e., reduced by 10 feet based on the following calculation: 50 ft – (50 ft X 20%) = 40 feet.

3. Applications are limited to 40 contiguous acres or less per day.

**Note: Minimum allowable buffer zone is 25 feet regardless of buffer zone reduction credits.**

**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.

## GENERAL 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, certified by the state and trained by Arysta 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.

## GENERAL USE PRECAUTIONS

- Follow all local government instructions for posting of treated areas and post all treated areas with warning signs.
- Comply with all local ordinances and regulations.
- Do not apply within ¼ mile of nursing homes, hospitals or prisons; or licensed schools, licensed day care facilities or licensed assisted living facilities (licensed by state or local governments) that will be occupied during the buffer zone period.
- Applications are limited to 40 contiguous acres or less per day.
- 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.
- Do not allow entry by unprotected persons into the fumigated area until the Fumigant Treated Area signs are removed.

**SPILL AND LEAK PROCEDURES**

- For entry into the affected area to correct problems, wear the personal protective equipment specified in the Hazards to Humans and Domestic Animals 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.
- Allow spilled fumigant to evaporate or to absorb onto vermiculite, dry sand, earth, or similar absorbent material. Dispose of contaminated material on site or at an approved waste disposal facility.
- Contaminated soil, water and other cleanup debris may be hazardous waste. Report any spill that exceeds 200 lbs (12.6 gallons of product) to the National Response Center at 1-800-424-8802.

**SITE-SPECIFIC FUMIGATION MANAGEMENT PLAN (FMP)**

Prior to the start of fumigation, the Certified Applicator supervising the application must verify that a site-specific FMP exists for each application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period). 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/operator, registrant or other party.

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

**Each site-specific FMP must contain the following elements:**

- Applicator information (name, phone number, pesticide applicator license and/or certificate number, employer name, employer address)
- 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 owner/operator of the application block
  - Diagrams and maps
  - Identify nursing homes, hospitals, prisons, licensed schools, licensed day care facilities, or licensed assisted living facilities (licensed by state or local governments) within ¼ mile of the fumigated area, and document how it was determined that such sites would be unoccupied during the application period.
- General application information (target application date/window, brand name of fumigant, EPA registration number)
- Tarp information and procedures for repair, perforation, and removal (if tarp is used)
  - Brand name, lot number, thickness
  - Name and phone number of person responsible for repairing tarps
  - Schedule for checking tarps for damage, tears, and other problems
  - Maximum time following notification of damage that the person(s) responsible for tarp repair will respond
  - Minimum time following application that tarp will be repaired

- Minimum size of damage that will be repaired
- Other factors used to determine when tarp repair will be conducted
- Name and phone number of person responsible for perforating and/or removing tarps (if other than Certified Applicator)
- Equipment/methods used to perforate tarps
- Schedule and target dates for perforating tarps
- Schedule and target dates for removing tarps
- Soil conditions (description of soil texture in application block, method used to determine soil moisture)
- Weather conditions (summary of forecasted conditions for the day of the application and the 48-hour period following the fumigant application)
  - Wind speed
  - Inversion conditions (e.g., shallow, compressed (low-level) temperature inversion)
  - Air stagnation advisory
- Buffer Zones
  - Application method
  - Application rate (pounds of Midas 50:50)
  - Application block size (acres)
  - Credits applied
  - Description of areas in the buffer zone that are not under the control of the owner/operator of the application block and how it was verified that these structures were unoccupied during the buffer zone period.
- Air-purifying respirators, SCBAs,, and other personal protective equipment (PPE) for handlers (handler task; protective clothing; respirator make, model, type, style, and size; respirator cartridge type; respirator cartridge replacement schedule; eye protection, gloves, other PPE)
- 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.
- Emergency procedures (evacuation routes, locations of telephones, contact information for first responders, local/state/federal/tribal contacts, key personnel and emergency procedures/responsibilities in case of an incident, equipment/tarp/seal failure or complaints, or other emergencies).
- Fumigant Treated Area and/or Buffer Zone (if used) posting procedures [person(s) who will post Fumigant Treated Area and/or Buffer Zone (if used) signs, location of Fumigant Treated Area and/or Buffer Zone (if used) signs, procedures for Fumigant Treated Area and/or Buffer Zone (if used) sign removal].
- Plan describing how communication will take place between the applicator, land owner/operator, and other on-site handlers (e.g., tarp perforators/removers, irrigators) for complying with label requirements (e.g., timing of tarp perforation and removal, PPE, buffer zone location).
  - Name and phone number of persons contacted
  - Date contacted
- Authorized on-site personnel
  - 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
  - For handlers designated to wear respirators (air-purifying respirator or SCBA):
    - Date of medical qualification for respirator(s) that each handler is designated to wear,
    - Date of training for respirator(s) that each handler is designated to wear, and
    - Date of fit-testing for respirator(s) for respirator(s) that each handler is designated to wear.
- Air monitoring plan
  - If sensory irritation is experienced, indicate whether operations will be ceased or operations will continue with a full-face air-purifying respirator
  - If the intention is to cease operations when sensory irritation is experienced, provide the name, address, and phone number of the handler that will perform monitoring activities prior to operations resuming
  - When a full-face air-purifying respirators are worn:



- Representative handler tasks to be monitored
- Monitoring equipment to be used and timing of monitoring
- Good Agricultural Practices (GAPs)
  - Description of applicable mandatory GAPs
  - Measurements and documentation to ensure GAPs are achieved (e.g., measurement of soil and other site conditions)
- Description of hazard communication. (The application block has been posted in accordance with the label. Non-handlers are excluded from the buffer zone. Pesticide product labels and material safety data sheets are on-site and readily available for employees to review.)
- Record-keeping procedures (the owner/operator of the application block as well as the Certified Applicator must keep a signed copy of the site-specific FMP for 2 years from the date of application).

For situations where an initial FMP is developed and certain elements do not change for multiple fumigation sites (e.g., applicator information, authorized on-site personnel, record-keeping procedures, emergency procedures) 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).

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

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

**The Post-Application Summary must contain the following elements:**

- Actual date of the application, application rate, and size of application block fumigated
- Summary of weather conditions on the day of the application and during the 48-hour period following the fumigant application
- Soil temperature measurement (if air temperatures were above 100° F in any of the 3 days prior to the application)
- Tarp damage and repair information (if applicable)
  - Location and size of tarp damage
  - Description of tarp/tarp seal/tarp equipment failure
  - Date and time of tarp repair
- Tarp perforation/removal details (if applicable)
  - Description of tarp removal (if different than in the FMP)
  - Date tarps were perforated
  - Date tarps were removed
- Vacating occupied structures within the buffer zone
  - Dates and times people left occupied structures within the buffer zone; and when they were allowed to return to such structures.
- Complaint details ( if applicable)
  - Person filing complaint (e.g., on-site handler, person off-site)
  - If off-site person, name, address, and phone number of person filing complaint
  - Description of control measures or emergency procedures followed after complaint.
- Description of incidents, equipment failure or other emergency, and emergency procedures followed (if applicable)

- Details of elevated air concentrations monitored on-site (if applicable)
  - Location of elevated air concentration levels
  - Description of control measures or emergency procedures followed
  - Air monitoring results
    - When sensory irritation experienced:
      - Date and time of sensory irritation
      - Handler task/activity
      - Handler location where irritation was observed
      - Resulting action (e.g., cease operations, continue operations with air-purifying respirators)
    - When using a direct read instrument:
      - Sample date and time
      - Handler task/activity
      - Handler location
      - Air concentration
      - Sampling method
- Date of Fumigant Treated Area sign removal
- Date of Buffer Zone sign removal (if used)
- Any deviations from the FMP
- Record-keeping procedures (the owner/operator of the application block as well as the Certified Applicator must keep a signed copy of the post-application summary for 2 years from the date of application).

**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. The plan must include:
  - schedule and procedures for checking tarps for damage, tears, and other problems
  - plans for determining when and how repairs to tarps will be made, and by whom
  - minimum time following injection that tarp will be repaired
  - minimum size of tarp damage that will be repaired
  - other factors used to determine how and when tarp repair will be conducted
  - schedule, equipment, and methods used to perforate tarps

- aeration plans and procedures following perforation of tarp, but prior to tarp removal or planting/transplanting
- schedule, equipment, and procedures for tarp removal

#### **Weather Conditions**

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist (see **Identifying Unfavorable Weather Conditions** section) or are predicted and whether fumigation should begin.
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: <http://www.nws.noaa.gov>, or by contacting your local National Weather Service Forecasting Office.
- **Identifying Unfavorable Weather Conditions** - Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

#### **Soil 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 fumigation. 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 fumigation 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 timing of the fumigation 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. See fumigation tables for planting requirements specific to the different application methods.

- 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.
- When using standard tarps, planting shall not occur for at least 10 days after application.
- When using highly retentive tarps, planting shall not occur for at least 14 days after application.

**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 application, then soil temperature must be measured and recorded in the FMP.

**Soil Moisture**

- The soil must be moist 9 inches below the surface. The amount of moisture needed will vary according to the soil type. Surface soil generally dries rapidly and must not be considered in this determination.
- Soil moisture must be determined by one of the following methods:
  - The USDA Feel and Appearance Method for testing, or
  - An instrument, such as a tensiometer.
- If there is insufficient moisture 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 fumigant injection. 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 application.

*Soil moisture determination using the USDA Feel and Appearance Method*

- For **coarse** textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, forms 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 conservation service specialist, 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 flowmeter or a constant pressure system with orifice plates to insure 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.
  - 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. At the end of the application, 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.

<b>RAISED BED SOIL FUMIGATION TABLE</b>		
<b>Crop</b>	<b>MIDAS 50:50 Per Broadcast Acre<sup>1</sup></b>	<b>Time Between Application and Planting<sup>2</sup></b>
Field-Grown Ornamentals Peppers Strawberries Tomatoes	<b>Standard Tarps</b> 200 - 350 lbs/Broadcast A (12.6 – 22 gal/Broadcast A)	10 – 14 days
	<b>Highly Retentive Tarps<sup>3</sup></b> 150-200 lbs/Broadcast A (9.4 – 12.6 gal/Broadcast A)	14 - 21 days when using highly retentive tarps
<b>NOTE:</b>		
<sup>1</sup> For fields infested with Nutsedge and Malva, apply a minimum of 300 lbs/A (18.9 gal/A) of MIDAS 50:50 with standard tarps and 160 lbs/A (10.1 gal/A) with highly retentive tarps.		
<sup>2</sup> Use the longer planting restriction period under conditions of high soil moisture, heavy soils, or rain.		
<sup>3</sup> Contact your Arysta LifeScience representative for tarp selection and rate reduction recommendations and approved tarps.		

**Field Rate Modifier Table for Raised Bed Applications**

Row Spacing (inches)	Bed Width (inches)	Field Rate Modifier
72	40	0.55
72	36	0.50
72	32	0.44
72	30	0.42
72	28	0.39
66	32	0.48
66	30	0.45
66	28	0.42
66	24	0.36
60	30	0.50
60	28	0.47
48	28	0.58

**APPLICATION RATES FOR BROADCAST/FLAT FUME FUMIGATION WITH STANDARD TARPS**

Crop	MIDAS 50:50 Per Acre <sup>1</sup>	Time Between Application and Planting
Field-Grown Ornamentals Peppers Strawberries Tomatoes Turf	200 – 350 lbs/A (12.6 – 22 gal/A)	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/A (15.1 – 22 gal/A)	10 – 14 days
Nurseries (including strawberries, stone fruits, tree nuts and conifer trees)	350 lbs/A (22 gal/A)	10 – 14 days
<b>NOTE:</b> <sup>1</sup> For fields infested with Nutsedge and Malva apply a minimum of 300 lbs/A (18.9 gal/A) of MIDAS 50:50.		

**Application Rates for Broadcast/Flat Fume Fumigation with Highly Retentive Tarps**

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

**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 treatment. 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 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.

**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.

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF ARYSTA IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN.**

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF ARYSTA, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT ARYSTA'S ELECTION, THE REPLACEMENT OF THE PRODUCT.**

MIDAS® and the Midas logo are registered trademarks of Arysta LifeScience North America, LLC  
Arysta LifeScience and the Arysta LifeScience logo are registered trademarks of Arysta LifeScience, LLC

MIDAS 50:50 For sale and use in all states other than Florida and California (PENDING) 11/11/10

270873

**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 FLORIDA ONLY**

**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%
<b>TOTAL:</b> .....	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**

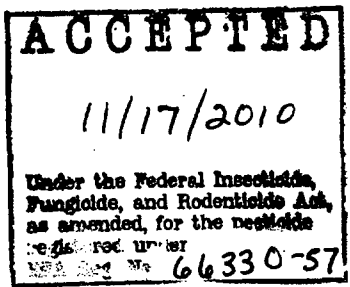
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail).

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
<b>HOT LINE NUMBERS</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. <b>FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952 or 1-651-632-8946</b>	
<b>NOTE TO PHYSICIAN</b>	
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



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

**When performing tasks with liquid contact potential, 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 and 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 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C).
- 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 1: *Handlers Wearing Half-Face Air-Purifying Respirators*, for when a full-face respirator is required.

**When not performing tasks with liquid contact potential, all handlers (including applicators) present in either the application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period) until 5 days (120 hours) after the application is complete (i.e., after soil has been sealed) or the buffer zone during the buffer zone period (see exception for transient travel in the Buffer Zone section) 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 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C).

- 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 1: *Handlers Wearing Half-Face Air-Purifying Respirators*, for when a full-face respirator is required.
- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Iodomethane and chloropicrin are heavier than air and can be trapped inside clothing and cause skin injury.

**When not performing tasks with liquid contact potential, all handlers (including applicators) present in the application block (i.e., a field or portion of a field treated with a fumigant in a 24-hour period) 5 days (120 hours) after the application is complete (i.e., after soil has been sealed) 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 2: *Handlers in the Application Block 5 days (120 hours) after the Application is Complete until the Entry Restricted Period Expires*, for when a full-face respirator is required.
- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Iodomethane and chloropicrin are heavier than air and can be trapped inside clothing and cause skin injury.

**IMPORTANT:** A self-contained breathing apparatus (SCBA) is not permitted for routine handler tasks. Wear an SCBA and PPE required for liquid contact potential in emergencies such as a spill or leak or when corrective action is needed to reduce air levels to acceptable levels.

#### **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. 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 intertidal 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).

**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**

**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 protected handlers may be in the area during the application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), restricted entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

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 Hazards to Humans and Domestic Animals section of this labeling.

**HANDLERS**

The following activities are prohibited from being performed in the application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period) by anyone other than persons who have been appropriately trained and equipped as handlers in accordance with the requirements in the Worker Protection Standard (40 CFR Part 170), from the start of the application until the entry restricted period ends (NOTE: persons installing, perforating, removing, repairing, and monitoring tarps are considered handlers for the durations listed below). Those activities include those persons:

- Participating in the application as supervisors, loaders, drivers, tractor co-pilots, shovelers, cross ditchers, or as other direct application participants (the application starts when the fumigant is first introduced into the soil and ends after the fumigant has stopped being delivered/dispensed to the soil);
- Using devices to take air samples to monitor fumigant air concentrations;
- Cleaning up fumigant spills (this does not include emergency personnel not associated with the fumigation application);
- Handling or disposing of fumigant containers;
- Cleaning, handling, adjusting, or repairing the parts of fumigation equipment that may contain fumigant residues;
- Installing, repairing, operating, or removing irrigation equipment in the fumigant application block;
- Entering the application site to perform scouting, crop advising, or monitoring tasks;
- Installing, perforating (cutting, punching, slicing, poking), removing, repairing, or monitoring tarps:
  - until 14 days after application is complete if tarps are not perforated and removed during those 14 days, or
  - until tarp removal is complete if tarps are **both** perforated **and** removed less than 14 days after application, or
  - until 48 hours after tarp perforation is complete if they will not be removed within 14 days after application.

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

- Performing any handling tasks as defined by the WPS.

**PROTECTION FOR HANDLERS**

**Respiratory Protection and Stop Work Triggers**

**1. Handlers Wearing Half-Face Air-Purifying Respirators**

The following procedures must be followed to determine whether a full-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent, is required or if operations must cease for handlers wearing a half-face air-purifying respirator:

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) while wearing a half-face air-purifying respirator:
  - A full-face air-purifying respirator must be worn by all handlers who remain in the application block and/or buffer zone, or
  - Operations must cease and handlers not wearing full-face air-purifying respirators must leave the application block and/or buffer zone.
- When full-face air-purifying respirators are worn, then air-monitoring samples for chloropicrin must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task.
- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Matheson-Kitagawa, Dräger, or Sensidyne device must be used. The devices must have a sensitivity of at least 0.15 ppm for chloropicrin.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a ten inch radius of the handler's nose and mouth.
- If at any time (1) a handler experiences any sensory irritation when wearing a full-face air-purifying respirator; or (2) an air 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 buffer zone. If operations cease, the emergency plan detailed in the FMP must be implemented.
- Handlers can remove full-face air-purifying respirators or resume work activities if the following conditions exist provided that a half-face air-purifying respirator is worn:
  - Two consecutive breathing zone samples for chloropicrin taken at the handling site at least 15 minutes apart must be less than 0.15 ppm.
  - Handlers do not experience sensory irritation, and
  - Air-purifying respirator cartridges have been changed.
  - During the collection of air samples a full-face air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.

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

The following procedures must be followed to determine whether a full-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or equivalent, is required or if operations must cease for handlers in the application block after the application is complete

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) then either:
  - A full-face air-purifying respirator must be worn by all handlers who remain in the application block or
  - Operations must cease and handlers not wearing respiratory protection must leave the application block.
- Handlers can remove full-face air-purifying respirators or resume operations if two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show that levels of chloropicrin have decreased to less than 0.15 ppm provided that handlers do not experience sensory irritation. During the collection of air samples, a full-face air-purifying respirator must be worn by the handler taking air samples. Samples must be taken where the sensory irritation is first experienced.

- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Matheson-Kitagawa, Dräger, or Sensidyne device, must be used. The devices must have a sensitivity of at least 0.15 ppm for chloropicrin.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a ten inch radius of the handler's nose and mouth.
- When full-face air-purifying respirators are worn, then air monitoring samples must be collected at least every two hours in the breathing zone of a handler performing a representative handling task.
- If at any time (1) a handler experiences any sensory irritation when wearing a full-face air-purifying respirator, or (2) an air 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. If operations cease, the emergency plan detailed in the FMP must be implemented.
- Handlers can resume work activities without full-face air-purifying respirators if two consecutive breathing zone samples taken at the handling site at least 15 minutes apart show levels of chloropicrin have decreased to less than 0.15 ppm, provided that handlers do not experience sensory irritation. During the collection of air samples a full-face air purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.
- Work activities can resume if all of the following conditions exist provided that a full-face air-purifying respirator is worn:
  - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 1.5 ppm, but are greater than 0.15 ppm,
  - Handlers do not experience sensory irritation while wearing the full-face air-purifying respirator, and
  - Cartridges have been changed.
  - During the collection of air samples, a full-face air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.

#### **Supervision of Handlers**

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

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

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

The Certified Applicator must provide **Fumigant Safe Handling** information to each handler involved in the application or confirm that each handler participating in the application has received **Fumigant Safe Handling** information in a manner they can understand within the past 12 months. **Fumigant Safe Handling** information will be provided where this product is purchased, or at <http://www.epa.gov/fumiganttraining>.

For all handling tasks at least two handlers trained under the provisions of the WPS 40 CFR 170.230 must be present.

#### **Respirator Fit Testing, Medical Qualification, and Training**



Employers must verify that any handler who uses a respirator is:

- Fit-tested and fit-checked using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134)
- Trained using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134)
- Examined by a qualified medical practitioner to ensure physical ability to safely wear the style of respirator to be worn. A qualified medical practitioner is a physician or other licensed health care professional who will evaluate the ability of a worker to wear a respirator. The initial evaluation consists of a questionnaire that asks about medical conditions (such as a heart condition) that would be problematic for respirator use. If concerns are identified, then additional evaluations, such as a physical exam, might be necessary. The initial evaluation must be done before respirator use begins. Handlers must be reexamined by a qualified medical practitioner if their health status or respirator style or use-conditions change. Upon request by local/state/federal/tribal enforcement personnel, employers must provide documentation demonstrating how they have complied with these requirements.

**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**

At a minimum two handlers must have the appropriate air-purifying respirator and cartridges available and these handlers must be fit-tested, trained, and medically examined.

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

Cartridges or canisters must be replaced when odor or irritation from this product becomes apparent, if the measured concentration of chloropicrin is greater than or equal to 1.5 ppm, or after 8 hours of use, whichever occurs first.

**AVAILABILITY OF RESPIRATORS FOR EMERGENCIES**

The employer of any handler must confirm that at least one self-contained breathing apparatus (SCBA) is on-site and is ready for use in case of an emergency. This must be documented in the FMP.

**Exclusion of Non-Handlers from Application Block:**

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

### Entry Restricted Period

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

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

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

### Notification

Notify workers of the application by warning them orally and by posting Fumigant Treated Area signs. The Fumigant Treated Area 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, size and timing of posting and removal.

Post the Fumigant Treated Area signs at all entrances to the application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period.)

### Tarp Perforation and/or Removal

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

- Standard tarps must not be perforated until a minimum of 5 days (120 hours) have elapsed after the fumigant injection into the soil is complete (e.g., after tarps have been laid), unless a weather condition exists which necessitates early perforation or removal, see **Early Tarp Removal for Broadcast Applications Only and Early Tarp Perforation for Flood Prevention Activities** sections. Highly retentive tarps (on an Arysta approved list) must not be perforated until a minimum of 10 days (240 hours) have elapsed after the fumigation injection into the soil is complete.
- If tarps will be removed before planting, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps will not be removed before planting, planting or transplanting must not begin until at least 48 hours after the tarp perforation is complete.
- If tarps are left intact for a minimum of 14 days after fumigant injection into the soil is complete, planting or transplanting may take place while the tarps are being perforated.
- Each tarp panel used for broadcast fumigation must be perforated.
- Tarps used for fumigations may be perforated manually ONLY for the following situations:

- At the beginning of each row when a coultter blade (or other device which performs similarly) is used on a motorized vehicle such as an ATV.
- In fields that are 1 acre or less.
- During flood prevention activities.
- In all other instances tarps must be perforated (cut, punched, poked, or sliced) only by mechanical methods.
- Tarp perforation for broadcast fumigations must be completed before noon.
- For broadcast fumigations, tarps must not be perforated if rainfall is expected within 12 hours.
- **Early Tarp Removal for Broadcast Applications Only:**
  - Tarps may be removed before the required 5 days (120 hours) 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.
  - If tarps are removed before the required 5 days (120 hours) or 10 days (240 hours) have elapsed due to adverse weather, the events must be documented in the post-application summary.
- **Early Tarp Perforation for Flood Prevention Activities**
  - Tarp perforation is allowed before the 5 or 10 days have elapsed.
  - Tarps must be immediately retucked and packed after soil removal.

### Buffer Zone

The area adjacent to the treated area is referred to as the buffer zone. The buffer zone shall extend from the edge of the treated area in all directions. See Buffer Zone Table. The minimum buffer zone distance shall be 25 feet

The Certified Applicator supervising the soil fumigation is responsible for the following:

1. Calculating the appropriate size of the buffer zone that must be maintained from the start of the application until 48 hours following the end of the application;
2. Establishing and maintaining the buffer zone from the start of the application until 48 hours following the end of the application. Buffer zones must be on the property under the control of the Certified Applicator and must not include property that is not under the control of the Certified Applicator unless written permission is obtained prior to fumigation, including signature, from responsible parties from all properties that will be included or partially included in the buffer zone. Buffer zones shall not extend onto public roads or areas, or onto any other land for which written consent is not attainable. The Certified Applicator must use an appropriate means to manage and maintain the buffer zone such as posting Buffer Zone signs around the perimeter of the buffer zone at potential points of entry, using trained workers to patrol the buffer zone, or other equivalent means. If Buffer Zone signs are used, they must be posted from the start of the application until 48 hours following the end of the application and must be removed within 3 days of the end of the buffer zone period. The Buffer Zone signs must include the same warning symbol and statements required for Fumigant Treated Area signs as stated on this label with the exception that signs will indicate "Fumigant Buffer Zone" at the top of the sign and will delete the statement "areas under fumigation"
3. Ensuring that unprotected workers and bystanders do not enter the buffer zone from the start of the application until 48 hours following the end of the application. **Exception:** Unprotected workers and bystanders may travel through (but not engage in any activity in) the buffer zone during the application and the 48-hour period following the end of the application, provided their total exposure time in any 24-hour period is 15 minutes or less. However, travel by unprotected workers or bystanders through the fumigated area itself is prohibited during the entire Entry-Restricted period. Handlers protected with required Personal Protective Equipment (PPE) may work in buffer zones. See the PERSONAL PROTECTIVE EQUIPMENT section.
4. Ensuring application site has a distinctive buffer zone. The buffer zone of the field to be treated cannot overlap the buffer zone of another field treated within the last 48 hours.

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- Ensuring that there are no occupied nursing homes, hospitals, or prisons; and no occupied licensed schools, licensed day care facilities and licensed assisted living facilities (licensed by state or local governments) within ¼ mile of the fumigated area during the buffer zone period.

**Determining Buffer Zone Distance**

- Determine the size of the buffer zone using the following Buffer Zone Table.
- The size of the buffer zone will be dependent on the following three factors:
  - The number of field acres that are being treated with MIDAS 50:50.
  - The pounds of MIDAS 50:50 that are being applied per treated acre.
  - Buffer zone reduction credits.

**Buffer Zone Table**

MIDAS 50:50 Application Rate (Lbs per Treated Acre)	SIZE OF FIELD IN ACRES (Buffer zone distance in feet) <sup>1, 2</sup>							
	Up to 5 Acres	6 – 10 Acres	11-15 Acres	16- 20 Acres	21-25 Acres	26-30 Acres	31-35 Acres	36-40 <sup>3</sup> 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
350	50	100	200	300	350	400	450	500

1. For rates not listed on this table, use the buffer zone for the next highest rate, or use the following calculation to determine the exact buffer zone:

$$\text{Buffer Zone for Application Rate Not Listed} = \frac{\text{Known Buffer Zone on Table} \times \text{Application Rate Not Listed}}{\text{Rate of Application for Known Buffer Zone}}$$

**2. Buffer Zone Reduction Credits:**

Reduce buffer zone by 10% for each factor listed below:

- Use of flat fume / broadcast application
- Use of highly retentive tarps. Highly retentive tarps for which credit can be applied must be on an Arysta approved list. Examples of Arysta approved tarps are Canslit Brand Metalized 1.3 ml, Pliant Blockade® VIF 1.25 ml, and Pliant Metalized 1.0-1.25.
- Application to soils having >3% organic matter. Refer to the USDA or USGS Soil Survey Maps for the treated area that identify the range of organic matter and / or a documented soil survey report that lists range of % organic matter for the treated area. Collection of samples for analysis of soil in the treated area should follow procedures as per USDA's Natural Resource Conservation Services methods. Information on soil sampling can be found at [www.soil.usda.gov](http://www.soil.usda.gov).

For example, if the Buffer Zone is 50 feet and the application qualifies for a buffer zone reduction credit such as use of highly retentive tarps, then the buffer zone can be reduced by 10%, i.e., reduced by 5 feet based on the following calculation: 50 ft – (50 ft X 10%) = 45 feet.

If the application qualifies for two buffer zone reduction credits such as use of a highly retentive tarps and soil with >3% organic matter, then the buffer zone can be reduced by 20%, i.e., reduced by 10 feet based on the following calculation: 50 ft – (50 ft X 20%) = 40 feet.

3. Applications are limited to 40 contiguous acres or less per day.

**Note: Minimum allowable buffer zone is 25 feet regardless of buffer zone reduction credits.**

### 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.

### GENERAL 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, certified by the state and trained by Arysta 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.

### GENERAL USE PRECAUTIONS

- Follow all local government instructions for posting of treated areas and post all treated areas with warning signs.
- Comply with all local ordinances and regulations.
- Do not apply within ¼ mile of nursing homes, hospitals or prisons; or licensed schools, licensed day care facilities or licensed assisted living facilities (licensed by state or local governments) that will be occupied during the buffer zone period.
- Applications are limited to 40 contiguous acres or less per day.
- 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.
- Do not allow entry by unprotected persons into the fumigated area until the Fumigant Treated Area signs are removed.

#### **SPILL AND LEAK PROCEDURES**

- For entry into the affected area to correct problems, wear the personal protective equipment specified in the *Hazards to Humans and Domestic Animals* section in 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.
- Allow spilled fumigant to evaporate or to absorb onto vermiculite, dry sand, earth, or similar absorbent material. Dispose of contaminated material on site or at an approved disposal facility.
- Contaminated soil, water and other cleanup debris may be hazardous waste. Report any spill that exceeds 200 lbs (12.6 gallons of product) to the National Response Center at 1-800-424-8802.

#### **SITE-SPECIFIC FUMIGATION MANAGEMENT PLAN (FMP)**

Prior to the start of fumigation, the Certified Applicator supervising the application must verify that a site-specific FMP exists for each application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period). 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/operator, registrant or other party.

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

#### **Each site-specific FMP must contain the following elements:**

- Applicator information (name, phone number, pesticide applicator license and/or certificate number, employer name, employer address)
- 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 owner/operator of the application block
  - Diagrams and maps
  - Identify nursing homes, hospitals, prisons, licensed schools, licensed day care facilities, or licensed assisted living facilities (licensed by state or local governments) within ¼ mile of the fumigated area, and document how it was determined that such sites would be unoccupied during the application period.
- General application information (target application date/window, brand name of fumigant, EPA registration number)
- Tarp information and procedures for repair, perforation, and removal (if tarp is used)
  - Brand name, lot number, thickness
  - Name and phone number of person responsible for repairing tarps

- Schedule for checking tarps for damage, tears, and other problems
- Maximum time following notification of damage that the person(s) responsible for tarp repair will respond
- Minimum time following application that tarp will be repaired
- Minimum size of damage that will be repaired
- Other factors used to determine when tarp repair will be conducted
- Name and phone number of person responsible for perforating and/or removing tarps (if other than Certified Applicator)
- Equipment/methods used to perforate tarps
- Schedule and target dates for perforating tarps
- Schedule and target dates for removing tarps
- Soil conditions (description of soil texture in application block, method used to determine soil moisture)
- Weather conditions (summary of forecasted conditions for the day of the application and the 48-hour period following the fumigant application)
  - Wind speed
  - Inversion conditions (e.g., shallow, compressed (low-level) temperature inversion)
  - Air stagnation advisory
- Buffer Zones
  - Application method
  - Application rate (pounds of Midas 50:50)
  - Application block size (acres)
  - Credits applied
  - Description of areas in the buffer zone that are not under the control of the owner/operator of the application block and how it was verified that these structures were unoccupied during the buffer zone period, including any consent documentation signed by parties whose properties were outside the control of the Certified Applicator but were included in the buffer zone.
- Air-purifying respirators, SCBAs, and other personal protective equipment (PPE) for handlers (handler task; protective clothing; respirator make, model, type, style, and size; respirator cartridge type; respirator cartridge replacement schedule; eye protection; gloves; and other PPE)
- Emergency procedures (evacuation routes, locations of telephones, contact information for first responders, local/state/federal/tribal contacts, key personnel and emergency procedures/responsibilities in case of an incident, equipment/tarp/seal failure or complaints, or other emergencies).
- Fumigant Treated Area and/or Buffer Zone (if used) posting procedures [person(s) who will post Fumigant Treated Area and/or Buffer zone (if used) signs, location of Fumigant Treated Area and/or Buffer Zone (if used) signs, procedures for Fumigant Treated Area and/or Buffer Zone (if used) sign removal].
- Plan describing how communication will take place between the applicator, land owner/operator, and other on-site handlers (e.g., tarp perforators/removers, irrigators) for complying with label requirements (e.g., timing of tarp perforation and removal, PPE, buffer zone location).
  - Name and phone number of persons contacted
  - Date contacted
- Authorized on-site personnel
  - Names, addresses and phone numbers of handlers
  - Names, addresses and phone numbers for employees of handlers
  - Tasks that each handler is authorized and trained to perform
  - For handlers designated to wear respirators (air-purifying respirator or SCBA):
    - Date of medical qualification for respirator(s) that each handler is designated to wear,
    - Date of training for respirator(s) that each handler is designated to wear, and
    - Date of fit-testing for respirator(s) that each handler is designated to wear..

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

For situations where an initial FMP is developed and certain elements do not change for multiple fumigation sites (e.g., applicator information, authorized on-site personnel, record-keeping procedures, emergency procedures) 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).

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

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

**The Post-Application Summary must contain the following elements:**

- Actual date of the application, application rate, and size of application block fumigated
- Summary of weather conditions on the day of the application and during the 48-hour period following the fumigant application
- Soil temperature measurement (if air temperatures were above 100° F in any of the 3 days prior to the application)
- Tarp damage and repair information (if applicable)
  - Location and size of tarp damage
  - Description of tarp/tarp seal/tarp equipment failure
  - Date and time of tarp repair
- Tarp perforation/removal details (if applicable)
  - Description of tarp removal (if different than in the FMP)
  - Date tarps were perforated
  - Date tarps were removed



- Vacating occupied structures within the buffer zone
  - Dates and times people left occupied structures within the buffer zone; and when they were allowed to return to such structures.
- Complaint details ( if applicable)
  - Person filing complaint (e.g., on-site handler, person off-site)
  - If off-site person, name, address, and phone number of person filing complaint
  - Description of control measures or emergency procedures followed after complaint.
- Description of incidents, equipment failure, or other emergency, and emergency procedures followed (if applicable)
- Details of elevated air concentrations monitored on-site (if applicable)
  - Location of elevated air concentration levels
  - Description of control measures or emergency procedures followed
  - Air monitoring results
    - When sensory irritation experienced:
      - Date and time of sensory irritation
      - Handler task/activity
      - Handler location where irritation was observed
      - Resulting action (e.g., cease operations, continue operations with air-purifying respirators)
    - When using a direct read instrument:
      - Sample date and time
      - Handler task/activity
      - Handler location
      - Air concentration
      - Sampling method
- Date of Fumigant Treated Area sign removal
- Date of Buffer Zone sign removal (if used)
- Any deviations from the FMP
- Record-keeping procedures (the owner/operator of the application block as well as the Certified Applicator must keep a signed copy of the post-application summary for 2 years from the date of application).

#### **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. The plan must include:
  - schedule and procedures for checking tarps for damage, tears, and other problems
  - plans for determining when and how repairs to tarps will be made, and by whom
  - minimum time following injection that tarp will be repaired
  - minimum size of tarp damage that will be repaired
  - other factors used to determine how and when tarp repair will be conducted
  - schedule, equipment, and methods used to perforate tarps
  - aeration plans and procedures following perforation of tarp, but prior to tarp removal or planting/transplanting
  - schedule, equipment, and procedures for tarp removal

**Weather Conditions**

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist (see **Identifying Unfavorable Weather Conditions** section) or are predicted and whether fumigation should begin.
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: <http://www.nws.noaa.gov>, or by contacting your local National Weather Service Forecasting Office.
- **Identifying Unfavorable Weather Conditions** - Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

**Soil 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 fumigation. 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 fumigation 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 timing of the fumigation 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. See fumigation tables for planting requirements specific to the different application methods.
- 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.
- When using standard tarps, planting shall not occur for at least 10 days after application.
- When using highly retentive tarps, planting shall occur for at least 14 days after application.

**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 application, then soil temperature must be measured and recorded in the FMP.

**Soil Moisture**

- The soil must be moist 9 inches below the surface. The amount of moisture needed will vary according to the soil type. Surface soil generally dries rapidly and must not be considered in this determination.
- Soil moisture must be determined by one of the following methods:
  - The USDA Feel and Appearance Method for testing, or
  - An instrument, such as a tensiometer.
- If there is insufficient moisture 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 fumigant injection. 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 application.

*Soil moisture determination using the USDA Feel and Appearance Method*

- For **coarse** textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, forms 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 conservation service specialist, 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 flowmeter or a constant pressure system with orifice plates to insure the proper amount of fumigant is applied.
- To prevent the backflow of fumigant into the compressed gas cylinder (e.g., 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.
- 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. At the end of the application, 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.

RAISED BED SOIL FUMIGATION TABLE		
Crop	MIDAS 50:50 Per Broadcast Acre <sup>1</sup>	Time Between Application and Planting <sup>2</sup>
Field-Grown Ornamentals Peppers Strawberries Tomatoes	<b>Standard Tarps</b> 200 - 350 lbs/Broadcast A (12.6 – 22 gal/Broadcast A)	10 – 14 days
	<b>Highly Retentive Tarps<sup>3</sup></b> 150-200 lbs/Broadcast A (9.4 – 12.6 gal/Broadcast A)	14 - 21 days when using highly retentive tarps
<b>NOTE:</b> <sup>1</sup> For fields infested with Nutsedge and Malva, apply a minimum of 300 lbs/A (18.9 gal/A) of MIDAS 50:50 with standard tarp and 160 lbs/A (10.1 gal/A) with highly retentive tarps. <sup>2</sup> Use the longer planting restriction period under conditions of high soil moisture, heavy soils, or rain. <sup>3</sup> Contact your Arysta LifeScience representative for tarp selection and rate reduction recommendations and approved tarps.		

**Field Rate Modifier Table for Raised Bed Applications**

Row Spacing (inches)	Bed Width (inches)	Field Rate Modifier
72	40	0.55
72	36	0.50
72	32	0.44
72	30	0.42
72	28	0.39
66	32	0.48
66	30	0.45
66	28	0.42
66	24	0.36
60	30	0.50
60	28	0.47
48	28	0.58

APPLICATION RATES FOR BROADCAST/FLAT FUME FUMIGATION WITH STANDARD TARPS		
Crop	MIDAS 50:50 Per Acre <sup>1</sup>	Time Between Application and Planting
Field-Grown Ornamentals Peppers Strawberries Tomatoes Turf	200 – 350 lbs/A (12.6 – 22 gal/A)	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/A (15.1 – 22 gal/A)	10 – 14 days
Nurseries (including strawberries, stone fruits, tree nuts and conifer trees)	350 lbs/A (22 gal/A)	10 – 14 days
<b>NOTE:</b> <sup>1</sup> For fields infested with Nutsedge and Malva apply a minimum of 300 lbs/A (18.9 gal/A) of MIDAS 50:50.		

**Application Rates for Broadcast/Flat Fume Fumigation with Highly Retentive Tarps**

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

**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 treatment. 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 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.



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### 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.

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF ARYSTA IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF ARYSTA, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT ARYSTA'S ELECTION, THE REPLACEMENT OF THE PRODUCT.**

MIDAS® and the Midas logo are registered trademarks of Arysta LifeScience North America, LLC  
Arysta LifeScience and the Arysta LifeScience logo are registered trademarks of Arysta LifeScience, LLC

**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 CALIFORNIA ONLY**

**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, and Diseases. The use of this product is restricted to the methods described in this label.**

**ACTIVE INGREDIENTS:**

Iodomethane .....	49.90%
Chloropicrin .....	49.75%
OTHER INGREDIENTS: .....	<u>0.35%</u>
<b>TOTAL:</b> .....	<b>100.00%</b>

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).

<b>FIRST AID</b>	
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
<p><b>HOT LINE NUMBERS</b></p> <p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p> <p><b>FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL:</b> 1-866-303-6952 or 1-651-632-8946</p>	
<p><b>NOTE TO PHYSICIAN</b></p> <p>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 gradual recovery after period of no exposure. Treatment is symptomatic.</p>	

ACCEPTED

11/17/2010

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registration number 66330-57

520073

EPA Reg. No. 66330-57  
EPA Est. No.

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

Net Contents: \_\_\_\_\_ LBS.

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

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

**When performing tasks with liquid contact potential, 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 and 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 cartridge filter, or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter (NIOSH approval number prefix TC-23C).
- 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 1: *Handlers Wearing Half-Face Air-Purifying Respirators*, for when a full-face respirator is required.

When not performing tasks with liquid contact potential, all handlers (including applicators) present in either the application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period) until the entry restricted period expires, or the buffer zone during the buffer zone period (see exception for transient travel in the Buffer Zone section) 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 cartridge filter, or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter (NIOSH approval number prefix TC-23C).
- 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-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter (NIOSH approval number prefix TC-23C). See Directions for Use, Protection for Handlers, Respiratory Protection and Stop Work Triggers, number 1: *Handlers Wearing Half-Face Air-Purifying Respirators*, for when a full-face respirator is required.
- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling.

**IMPORTANT:** A self-contained breathing apparatus (SCBA) is not permitted for routine handler tasks. Wear an SCBA and PPE required for liquid contact potential in emergencies such as a spill or leak or when corrective action is needed to reduce air levels to acceptable levels.

**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.

<b>USER SAFETY RECOMMENDATIONS</b>	
User should:	<ul style="list-style-type: none"> <li>• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li> <li>• Remove clothing and gloves, if worn, immediately if pesticide gets inside, then wash skin thoroughly and put on clean clothing and gloves, if worn.</li> <li>• Remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.</li> </ul>

**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).

**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**

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 protected handlers may be in the area during the application.

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

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), restricted entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

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 Hazards to Humans and Domestic Animals section of this labeling.

**HANDLERS**

The following activities are prohibited from being performed in the application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period) by anyone other than persons who have been appropriately trained and equipped as handlers in accordance with the requirements in the Worker Protection Standard (40 CFR Part 170), from the start of the application until the entry restricted period ends (NOTE: persons installing, perforating, removing, repairing, and monitoring tarps are considered handlers). Those activities include those persons:

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

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

- Performing any handling tasks as defined by the WPS.
- Handlers do not include local state or federal officials performing inspection, sampling, or other similar official duties.

## PROTECTION FOR HANDLERS

### Respiratory Protection and Stop Work Triggers Handlers Wearing Half-Face Air-Purifying Respirators

The following procedures must be followed to determine whether a full-face air-purifying respirator with a 3M Brand No. 60928 cartridge filter, or one specifically tested against iodomethane which performs equivalent to the 60928 cartridge filter, is required or if operations must cease for handlers wearing a half-face air-purifying respirator:

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) while wearing a half-face air-purifying respirator:
  - A full-face air-purifying respirator must be worn by all handlers who remain in the application block and/or buffer zone, or
  - Operations must cease and handlers not wearing full-face air-purifying respirators must leave the application block and/or buffer zone.
- When full-face air-purifying respirators are worn, then air-monitoring samples for chloropicrin must be collected at least once every hour in the breathing zone of a handler performing a representative handling task.
- When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a Matheson-Kitagawa, Dräger, or Sensidyne device must be used. The devices must have a sensitivity of at least 0.10 ppm for chloropicrin. Follow all manufacture's directions when using a direct reading detection device.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a ten inch radius of the handler's nose and mouth.
- If at any time (1) a handler experiences any sensory irritation when wearing a full-face air-purifying respirator; or (2) an air sample is greater than or equal to 1.0 ppm, then all handler activities must cease and handlers must be removed from the application block and buffer zone. If operations cease, the emergency plan detailed in the FMP must be implemented.
- Handlers can remove full-face air-purifying respirators or resume work activities if all of the following conditions exist provided that a half-face air-purifying respirator is worn:
  - Two consecutive breathing zone samples for chloropicrin taken at the handling site at least 15 minutes apart must be less than 0.10 ppm,
  - Handlers do not experience sensory irritation, and
  - Air-purifying respirator cartridges have been changed.
  - During the collection of air samples a full-face air-purifying respirator must be worn by the handler taking the air samples. Samples must be taken where the sensory irritation is first experienced.

### Supervision of Handlers

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

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

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

The certified applicator must provide **Fumigant Safe Handling Information** to each handler involved in the application or confirm that each handler participating in the application has received **Fumigant Safe**

**Handling Information** in a manner they can understand within the past twelve months. **Fumigant Safe Handling Information** will be provided where this product is purchased, or at <http://www.epa.gov/fumiganttraining>).

For all handling tasks at least two handlers trained under the provisions of the WPS 40 CFR 170.230 must be present.

#### **Respirator Fit Testing, Medical Qualification, and Training**

Employers must comply with California respirator regulations found in California Title 3 California Code of regulations, section 6739.

#### **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**

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)..

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

Cartridges or canisters must be replaced when odor or irritation from this product becomes apparent, if the measured concentration of chloropicrin is greater than or equal to 1.0 ppm, or as defined in California's Title 3 CCR Section 6739.

#### **AVAILABILITY OF RESPIRATORS FOR EMERGENCIES**

The employer of any handler must confirm that at least one self-contained breathing apparatus (SCBA) is on-site and is ready, as defined in California's Title 3 CCR Section 6739, for use in case of an emergency. This must be documented in the FMP.

#### **Exclusion of Non-Handlers from Application Block and Buffer Zone:**

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

#### **Entry Restricted Period**

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

- If tarps will be removed before planting, the entry restricted period ends 24 hours after tarp removal is complete.
- If tarps will not be removed before planting, the entry restricted period ends 24 hours after tarp perforation is complete.
- In all other cases (including tarp failure) the entry restricted period is 14 days after the application is complete

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



**Notification**

Notify workers of the application by warning them orally and by posting Fumigant Treated Area signs. The Fumigant Treated Area 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, size and timing of posting and removal.

Post the Fumigant Treated Area signs at all entrances to the application block (i.e., the field or portion of a field treated with a fumigant in any 24-hour period.)

**Tarp Perforation and/or Removal**

**IMPORTANT:** Persons perforating, repairing, removing, and/or monitoring tarps are defined as handlers (see handlers as stated in this labeling) and must be provided the PPE and other protections for handlers as required on this labeling and in the Worker Protection Standard for Agricultural Pesticides.

- Highly retentive tarps (on an Arysta approved list) must not be perforated until a minimum of 14 days have elapsed after the fumigation injection into the soil is complete, unless a weather condition exist which necessitates early perforation or removal, see **Early Tarp Removal for Broadcast Applications Only and Early Tarp Perforation for Flood Prevention Activities** sections.
- If tarps will be removed before planting, tarp removal must not begin until at least 24 hours after tarp perforation is complete.
- If tarps will not be removed before planting, planting or transplanting must not begin until at least 24 hours after the tarp perforation is complete.
- Each tarp panel used for broadcast fumigation must be perforated.
- Tarps used for fumigations may be perforated manually **ONLY** for the following situations:
  - At the beginning of each row when a coulter blade (or other device which performs similarly) is used on a motorized vehicle such as an ATV.
  - In fields that are 1 acre or less.
  - During flood prevention activities.
- In all other instances tarps must be perforated (cut, punched, poked, or sliced) only by mechanical methods.
- Tarp perforation for broadcast fumigations must be completed before noon.
- For broadcast fumigations, tarps must not be perforated if rainfall is expected within 12 hours.
- **Early Tarp Removal for Broadcast Applications Only:**
  - Tarps may be removed before the required 14 days 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.
  - Planting or transplanting may not take place for 14 days after the fumigation is complete and at least 24 hours have elapsed since the end of tarp perforation activities.
  - If tarps are removed before the required 14 days have elapsed due to adverse weather, the events must be documented in the post-application summary.
- **Early Tarp Perforation for Flood Prevention Activities**
  - Tarp perforation is allowed before the 14 days have elapsed.
  - Tarps must be immediately retucked and packed after soil removal.

- o Planting or transplanting may not take place for 14 days after the fumigation is complete and at least 24 hours have elapsed since the end of tarp perforation activities.

**Buffer Zone**

The area adjacent to the treated area is referred to as the buffer zone. The buffer zone shall extend from the edge of the treated area in all directions. See Buffer Zone Table. The minimum buffer zone distance shall be 200 feet except that the minimum buffer zone distance for Tree Replant – Probe or Auger application is 100 feet.

The Certified Applicator supervising the soil fumigation is responsible for the following:

1. Calculating the appropriate size of the buffer zone that must be maintained from the start of the application until 48 hours following the end of the application;
2. Establishing and maintaining the buffer zone from the start of the application until 48 hours following the end of the application. Buffer zones must be on the property under the control of the Certified Applicator and must not include property that is not under the control of the Certified Applicator unless written permission is obtained prior to fumigation, including signature, from the responsible parties from all properties that will be included in the buffer zone. Buffer zones shall not extend onto public roads or areas, or onto any other land for which written consent is not attainable. The Certified Applicator must use an appropriate means to manage and maintain the buffer zone such as posting Buffer Zone signs around the perimeter of the buffer zone at potential points of entry, using trained workers to patrol the buffer zone, or other equivalent means. If Buffer Zone signs are used, they must be posted from the start of the application until 48 hours following the end of the application and must be removed within 3 days of the end of the buffer zone period. The Buffer Zone signs must include the same warning symbol and statements required for Fumigant Treated Area signs as stated on this label with the exception that signs will indicate "Fumigant Buffer Zone" at the top of the sign and will delete the statement "areas under fumigation".
3. Ensuring that unprotected workers and bystanders do not enter the buffer zone, from the start of the application until 48 hours following the end of the application. **Exception:** Unprotected workers and bystanders may travel through (but not engage in any activity in) the buffer zone during the application and the 48-hour period following the end of the application, provided their total exposure time in any 24-hour period is 15 minutes or less. However, travel by unprotected workers or bystanders through the fumigated area itself is prohibited during the entire Entry Restricted period. Handlers protected with required Personal Protective Equipment (PPE) may work in buffer zones. See the PERSONAL PROTECTIVE EQUIPMENT section.
4. Ensuring application site has a distinctive buffer zone. The buffer zone of the field to be treated cannot overlap the buffer zone of another field treated with a MIDAS product.
5. Ensuring that there are no occupied nursing homes, hospitals, or prisons; and no occupied licensed schools, state licensed day care center (any child care facility other than a family day care home, including infant centers, preschools, extended day care facilities and school age child care centers) playgrounds, and licensed assisted living facilities (licensed by state or local governments) within 1/2 mile of the fumigated area during the buffer zone period.

**Determining Buffer Zone Distance**

- Determine the size of the buffer zone using the following Buffer Zone Table.
- The size of the buffer zone will be dependent on the following two factors:
  - o The number of field acres that are being treated with MIDAS 50:50.
  - o The pounds of MIDAS 50:50 that are being applied per treated acre.
  - o For partial acre applications, round up to the next highest acreage column to determine buffer zone distance, i.e., for 5 1/2 acres use 6 acres.
  - o For application rates per treated acre not listed in the Buffer Zone Tables below, use the buffer zone distances for the next highest rate.

**Buffer Zone Tables**

MIDAS 50:50 Application Rate (Lbs per Treated Acre) <sup>1</sup>	SIZE OF FIELD IN ACRES Shank-Bedded Application Method with Highly Retentive Tarp (Buffer zone distance in feet) <sup>2</sup>			
	Up to 1 Acre	2 - 5 Acres	6 -10 Acres	11-20 Acres
50	200	200	200	250
75	200	200	345	560
100	200	330	545	855
125	200	460	725	1115
150	200	575	890	1395

1. Applications are limited to 20 contiguous acres or less per day  
 2. Refer to raised Bed Soil Fumigation Table to determine lbs per treated acre

**Note: Minimum allowable buffer zone distance is 200 feet.**

MIDAS 50:50 Application Rate (Lbs per Treated Acre)	SIZE OF FIELD IN ACRES Broadcast/Flat Fume Application Method with Highly Retentive Tarp (Buffer zone distance in feet) <sup>1</sup>			
	Up to 1 Acre	2 - 5 Acres	6 -10 Acres	11-20 Acres
100	200	200	200	200
125	200	200	200	315
150	200	200	265	460
175	200	215	365	590
200	200	265	445	725

1. Applications are limited to 20 contiguous acres or less per day

**Note: Minimum allowable buffer zone distance is 200 feet.**

**Buffer Zone for Tree Replant – Probe or Auger Applications**

- Minimum allowable buffer zone distance is 100 feet.

**GENERAL 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, certified by the state and trained by Arysta 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, 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 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.

**GENERAL USE PRECAUTIONS**

- Follow all local government instructions for posting of treated areas and post all treated areas with warning signs.
- Comply with all local ordinances and regulations.
- Do not apply within ½ mile of nursing homes, hospitals or prisons; or licensed schools, playground; state licensed day care centers (any child care facility other than a family day care home, including infant centers, preschools, extended day care facilities and school age child care centers) or licensed assisted living facilities (licensed by state or local governments) that will be occupied during the buffer zone period.
- Applications are limited to 20 contiguous acres or less per day for shank application; 25 sites per acre per day for Auger-probe injection application.
- 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.
- 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 14 days. Most raised bed applications will not result in tarp removal.
- Do not allow entry by unprotected persons into the fumigated area until the Fumigant Treated Area signs are removed.
- Applications are prohibited after sunset and before sunrise
- Highly retentive tarps approved by Arysta LifeScience North America and the California Department of Pesticide Regulation are required for all Midas 50:50 applications except for tree replant probe or auger applications. The use of standard tarps is prohibited with applications of MIDAS 50:50. Contact your Arysta LifeScience North America representative for information on tarp selection.
- A 100 foot buffer zone distance is required for unprotected wellheads, or berms must be constructed adjacent to wellheads, that prevent surface water run-off contaminating wellheads
- For applications within groundwater protection areas, irrigation efficiency is limited to 133% of crop need for 6 months following application to prevent leaching.

## SPILL AND LEAK PROCEDURES

- For entry into the affected area to correct problems, wear the personal protective equipment in the Hazards to Humans and Domestic Animals 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 0.10 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 disposal facility.

## SITE-SPECIFIC FUMIGATION MANAGEMENT PLAN (FMP)

Prior to the start of fumigation, the Certified Applicator supervising the application must verify that a site-specific FMP exists for each application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period). 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/operator, registrant or other party.

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

### Each site-specific FMP must contain the following elements:

- Applicator information (name, phone number, pesticide applicator license and/or certificate number, employer name, employer address)
- 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 owner/operator of the application block
  - Diagrams and maps
  - Identify nursing homes, hospitals, prisons, licensed schools, playgrounds, licensed day care facilities, or licensed assisted living facilities (licensed by state or local governments) within ½ mile of the fumigated area, and document how it was determined that such sites would be unoccupied during the application period.
- General application information (target application date/window, brand name of fumigant, EPA registration number)
- Tarp information and procedures for repair, perforation, and removal (if tarp is used)
  - Brand name, lot number, thickness
  - Name and phone number of person responsible for repairing tarps
  - Schedule for checking tarps for damage, tears, and other problems
  - Maximum time following notification of damage that the person(s) responsible for tarp repair will respond
  - Minimum time following application that tarp will be repaired
  - Minimum size of damage that will be repaired
  - Other factors used to determine when tarp repair will be conducted
  - Name and phone number of person responsible for perforating and/or removing tarps (if other than Certified Applicator)
  - Equipment/methods used to perforate tarps
  - Schedule and target dates for perforating tarps
  - Schedule and target dates for removing tarps

- Soil conditions (description of soil texture in application block, method used to determine soil moisture)
- Weather conditions (summary of forecasted conditions for the day of the application and the 48-hour period following the fumigant application)
  - Wind speed
  - Inversion conditions (e.g., shallow, compressed (low-level) temperature inversion)
  - Air stagnation advisory
- Groundwater Protection (California only)
  - List of wells within 100 feet of the application, and confirmation that these wells are protected
  - Document if application site is or is not within a groundwater protection area
  - Document procedure to ensure that irrigation will be limited to 133% of crop need if the application is within a groundwater protection area
- Buffer Zones
  - Application method
  - Application rate (pounds of Midas 50:50) per treated acre
  - Application block size (acres)
  - Description of areas in the buffer zone that are not under the control of the owner/operator of the application block and how it was verified that these structures were unoccupied during the buffer zone period.
- Air-purifying respirators, SCBAs, and other personal protective equipment (PPE) for handlers (handler task; protective clothing; respirator make, model, type, style, and size; respirator cartridge type; respirator cartridge replacement schedule; eye protection, gloves, other PPE)
- Emergency procedures (evacuation routes, locations of telephones, contact information for first responders, local/state/federal/tribal contacts, key personnel and emergency procedures/responsibilities in case of an incident, equipment/tarp/seal failure or complaints, or other emergencies).
- Fumigant Treated Area and/or Buffer Zone (if used) posting procedures [person(s) who will post Fumigant Treated Area and/or Buffer Zone (if used) signs, location of Fumigant Treated Area and/or Buffer Zone (if used) signs, procedures for Fumigant Treated Area and/or Buffer Zone (if used) sign removal].
- Plan describing how communication will take place between the applicator, land owner/operator, and other on-site handlers (e.g., tarp perforators/removers, irrigators) for complying with label requirements (e.g., timing of tarp perforation and removal, PPE, buffer zone location).
  - Name and phone number of persons contacted
  - Date contacted
- Authorized on-site personnel
  - 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
  - For handlers designated to wear respirators (air-purifying respirator or SCBA):
    - Date of medical qualification for respirator(s) that each handler is designated to wear,
    - Date of training for respirator(s) that each handler is designated to wear, and
    - Date of fit-testing for respirator(s) for respirator(s) that each handler is designated to wear.
- Air monitoring plan
  - If sensory irritation is experienced, indicate whether operations will be ceased or operations will continue with a full-face air-purifying respirator
  - If the intention is to cease operations when sensory irritation is experienced, provide the name, address, and phone number of the handler that will perform monitoring activities prior to operations resuming
  - When full-face air-purifying respirators are worn:
    - Representative handler tasks to be monitored
    - Monitoring equipment to be used and timing of monitoring
- Good Agricultural Practices (GAPs)
  - Description of applicable mandatory GAPs
  - Measurements and documentation to ensure GAPs are achieved (e.g., measurement of soil and other site conditions)

- Description of hazard communication. (The application block has been posted in accordance with the label. Non-handlers are excluded from the buffer zone. Pesticide product labels and material safety data sheets are on-site and readily available for employees to review.)
- Record-keeping procedures (the owner/operator of the application block as well as the Certified Applicator must keep a signed copy of the site-specific FMP for 2 years from the date of application).

For situations where an initial FMP is developed and certain elements do not change for multiple fumigation sites (e.g., applicator information, authorized on-site personnel, record-keeping procedures, emergency procedures) 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).

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

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

**The Post-Application Summary must contain the following elements:**

- Actual date of the application, application rate, and size of application block fumigated
- Summary of weather conditions on the day of the application and during the 48-hour period following the fumigant application
- Soil temperature measurement (if air temperatures were above 100° F in any of the 3 days prior to the application)
- Tarp damage and repair information (if applicable)
  - Location and size of tarp damage
  - Description of tarp/tarp seal/tarp equipment failure
  - Date and time of tarp repair
- Tarp perforation/removal details (if applicable)
  - Description of tarp removal (if different than in the FMP)
  - Date tarps were perforated
  - Date tarps were removed
- Vacating occupied structures within the buffer zone
  - Dates and times people left occupied structures within the buffer zone; and when they were allowed to return to such structures.
- Complaint details ( if applicable)
  - Person filing complaint (e.g., on-site handler, person off-site)
  - If off-site person, name, address, and phone number of person filing complaint
  - Description of control measures or emergency procedures followed after complaint.
- Description of incidents, equipment failure or other emergency, and emergency procedures followed (if applicable)
- Details of elevated air concentrations monitored on-site (if applicable)
  - Location of elevated air concentration levels
  - Description of control measures or emergency procedures followed
  - Air monitoring results
    - When sensory irritation experienced:

- Date and time of sensory irritation
- Handler task/activity
- Handler location where irritation was observed
- Resulting action (e.g., cease operations, continue operations with air-purifying respirators)
- When using a direct read instrument:
  - Sample date and time
  - Handler task/activity
  - Handler location
  - Air concentration
  - Sampling method
- Date of Fumigant Treated Area sign removal
- Date of Buffer Zone sign removal (if used)
- Any deviations from the FMP
- Record-keeping procedures (the owner/operator of the application block as well as the Certified Applicator must keep a signed copy of the post-application summary for 2 years from the date of application).

#### **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.

Highly retentive tarps approved by Arysta LifeScience North America and the California Department of Pesticide Regulation are required for all Midas 50:50 applications. (except for Tree Replant – Probe or Auger Applications) Contact your Arysta LifeScience North America representative for information on tarp selection.. Standard tarps are prohibited. 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. The plan must include:
  - schedule and procedures for checking tarps for damage, tears, and other problems
  - plans for determining when and how repairs to tarps will be made, and by whom
  - minimum time following injection that tarp will be repaired
  - minimum size of tarp damage that will be repaired
  - other factors used to determine how and when tarp repair will be conducted
  - schedule, equipment, and methods used to perforate tarps
  - aeration plans and procedures following perforation of tarp, but prior to tarp removal or planting/transplanting



- schedule, equipment, and procedures for tarp removal

#### **Weather Conditions**

- Prior to fumigation the weather forecast for the day of the application and the 48-hour period following the fumigation must be checked to determine if unfavorable weather conditions exist (see **Identifying Unfavorable Weather Conditions** section) or are predicted and whether fumigation should begin.
- Wind speed at the application site must be a minimum of 2 mph at the start of the application or forecasted to reach at least 5 mph during the application.
- Do not apply if a shallow, compressed (low-level) temperature inversion is forecast to persist for more than 18 consecutive hours for the 48-hour period after the start of application, or if there is an air stagnation advisory issued by the National Weather Service in effect for the area in which the fumigation is planned.
- Detailed local forecasts for weather conditions, wind speed, and air stagnation advisories may be obtained on-line at: <http://www.nws.noaa.gov>, or by contacting your local National Weather Service Forecasting Office.
- **Identifying Unfavorable Weather Conditions** - Unfavorable weather conditions block upward movement of air, which results in trapping fumigant vapors near the ground. The resulting air mass can move off-site in unpredictable directions. These conditions typically exist prior to sunset and continue past sunrise and persist as late as noontime. Unfavorable conditions are common on nights with limited cloud cover and light to no wind and their presence can be indicated by ground fog or smog and can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

#### **Soil 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 fumigation. 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 fumigation 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 timing of the fumigation 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. See fumigation tables for planting requirements specific to the different application methods.
- 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.
- When using highly retentive tarps, planting shall not occur for at least 14 days after application.

**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 application, then soil temperature must be measured and recorded in the FMP.

**Soil Moisture**

- The soil must be moist 9 inches below the surface. The amount of moisture needed will vary according to the soil type. Surface soil generally dries rapidly and must not be considered in this determination.
- Soil moisture must be determined by one of the following methods:
  - The USDA Feel and Appearance Method for testing, or
  - An instrument, such as a tensiometer.
- If there is insufficient moisture 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 fumigant injection. 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 application.

*Soil moisture determination using the USDA Feel and Appearance Method*

- For **coarse** textured soils (fine sand and loamy fine sand) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, 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) there must be enough moisture (50 to 75 percent available soil water moisture) so the soil is moist, forms 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 conservation service specialist, 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 flowmeter or a constant pressure system with orifice plates to insure 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.
  - Always pressurize the system with compressed gas or by use of a compressed air system before opening the fumigant cylinder valve.

- Prior to each use of a fumigation rig, 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. At the end of the application, 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.

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- 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 with Highly Retentive Tarp 2) Broadcast/Flat Fume Application with Highly Retentive Tarp, 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 per treated acre, 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., 100 lbs MIDAS 50:50/broadcast acre \* 0.50 = 50 lbs MIDAS 50:50/treated acre. Always use the rate per treated acre to calculate buffer zone distances.

RAISED BED SOIL FUMIGATION TABLE		
Crop	MIDAS 50:50 Per Broadcast Acre <sup>1</sup>	Time Between Application and Planting <sup>2</sup>
Field-Grown Ornamentals Peppers Strawberries Tomatoes	<b>Highly Retentive Tarps<sup>3</sup></b> 100 - 200 lbs/Broadcast Acre (6.3 – 12.6 gal/Broadcast Acre)	14 – 21 days when using highly retentive tarps
<p><b>NOTE:</b></p> <p><sup>1</sup> For fields infested with nutsedge and Malva, apply a minimum of 160 lbs/broadcast acre (10.1 gal/acre) MIDAS 50:50 with highly retentive tarps.</p> <p><sup>2</sup> Use the longer planting restriction period under conditions of high soil moisture, heavy soils, or rain.</p> <p><sup>3</sup> Highly retentive tarps approved by Arysta LifeScience North America and the California Department of Pesticide Regulation are required for all Midas 50:50 applications. Contact your Arysta LifeScience North America representative for information on tarp selection.</p>		

If the row spacing and bed width (measured at base of bed) to be used do not appear in the table below, calculate the field rate modifier by dividing the average bed width by the row spacing (measured as the distance of the midpoint of one bed to the midpoint of the adjacent bed). The Field Rate Modifier is not to exceed 0.75, and the maximum amount of product that can be applied is 150 pounds of product per treated acre.

**Field Rate Modifier Table for Raised Bed Applications**

<b>Row Spacing (inches)</b>	<b>Bed Width (inches)</b>	<b>Field Rate Modifier</b>
72	54	0.75
72	48	0.65
72	44	0.61
72	40	0.55
72	36	0.50
72	32	0.44
72	30	0.42
72	28	0.39
66	42	0.63
66	38	0.57
66	32	0.48
66	30	0.45
66	28	0.42
66	24	0.36
60	30	0.50
60	28	0.47
52	30	0.57
52	28	0.53
48	28	0.58
42	24	0.57

APPLICATION RATES FOR BROADCAST / FLAT FUME FUMIGATION TABLE <sup>1</sup>		
Crop	MIDAS 50:50 Per Acre <sup>2</sup>	Time Between Application and Planting
Field-Grown Ornamentals Peppers Strawberries Tomatoes Turf	125 - 200 lbs/A (7.9 - 12.6 gal/Broadcast Acre)	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 Grape)	125 - 200 lbs/A (7.9 - 12.6 gal/Broadcast Acre)	14 days
Nurseries (including strawberries, stone fruits, tree nuts and conifer trees)	150 - 200 lbs/A (9.4 - 12.6 gal/Broadcast Acre)	14 days
<b>NOTES:</b>		
<sup>1</sup> Highly retentive tarps approved by Arysta LifeScience North America and the California Department of Pesticide Regulation are required for all Midas 50:50 applications. Contact your Arysta LifeScience North America representative for information on tarp selection		
<sup>2</sup> For fields infested with Nutsedge and Malva apply 200 lbs/acre (12.6 gal/acre) of MIDAS 50:50.		

**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 treatment. DO NOT PLANT if the odor of chloropicrin is detectable.

An application block (i.e., a field or portion of a field treated with a fumigant in any 24-hour period) cannot exceed 50 sites per acre and 200 sites (trees, vines, shrubs) per day.

The minimum buffer zone distance for this type of application is 100 feet.

Tarps are not required.

**ROTATIONAL CROPS**

Food 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.

**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.

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF ARYSTA IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN.**

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