

62531-2

07/31/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

John Reese Jr
ASHTA Chemicals
3509 Middle Road
Ashtabula OH 44005

JUL 31 2012

Subject Ashta Gold
EPA Reg No 62531 2
Phase 2 RED Mitigation Amendment dated December 19 2011
EPA Decision Number 459195

Dear Mr Reese

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

LABEL REVISIONS

- 1 On pages 2 and 9 revise the first sentence in the Personal Protective Equipment (PPE) section to read Some materials that are chemical resistant to this product are PPE constructed of Saranex neoprene and chlorinated polyethylene which provide short term or splash protection against liquid in this product
- 2 On pages 3 10 and 48 delete clothing/ in the third bullet under User Safety Recommendations
- 3 On pages 44 and 50 revise the last sentence of the Warranty Disclaimer section to read To the extent consistent with applicable law Seller shall have no liability for consequential damages
- 4 On page 48 add the following statement to the Directions for Use section under Product Information Restricted Use Pesticide Not for use in the state of California

CONDITIONS

- 1 EPA has determined that the risk mitigation measures on the revised label for this product are necessary to adequately protect human health and the environment Therefore pursuant to 40 CFR § 152.130(d) EPA has decided that no product bearing

previously approved labeling may be sold or distributed (released for shipment) by its registrant after December 1 2012. Wherever state approval is required for sale or distribution of this product with this new labeling EPA strongly encourages you to submit an application to the state authority as soon as possible. You should be aware that the Agency does not intend to modify the December 1 2012 deadline because of any failure to obtain state approvals.

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

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

Sincerely



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

Enclosure

[Base Label]

<p>RESTRICTED USE PESTICIDE DUE TO ACUTE TOXICITY For retail sale to and use by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator s certification</p>

ASHTA GOLD

Fumigant

Active Ingredient	
Chloropicrin	99.3%
Other Ingredients	<u>0.7%</u>
Total	100.0%

This product weighs 14.15 lbs Per Gallon

ACCEPTED
with COMMENTS
In EPA Letter Dated.

KEEP OUT OF REACH OF CHILDREN

7/31/2012

DANGER

Under the Federal Insecticide, Fungicide and Rodenticide Act, as amended for the pesticide registered under EPA Reg. No. 62531-2



POISON



[Note Poison will be printed in red]

PELIGRO

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

FIRST AID

IN ALL CASES OF OVEREXPOSURE GET MEDICAL ATTENTION IMMEDIATELY TAKE PERSON TO A DOCTOR OR AN EMERGENCY TREATMENT FACILITY

IF INHALED Move person to fresh air. If person is not breathing call 911 or an ambulance then give artificial respiration preferably mouth to mouth. Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING Take off contaminated clothing shoes and other items covering the skin. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses if present after the first 5 minutes then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO THE PHYSICIAN Chloropicrin is a volatile liquid that is the active ingredient in tear gas. As a gas it is a powerful lachrymator. Early symptoms of overexposure are lachrymation respiratory distress and vomiting. Pulmonary edema may develop later. Treatment is symptomatic.

NET WEIGHT _____ LBS
LOT NO _____

EPA REG NO 62531 2
EPA EST NO 062531 OH 01

**ASHTA Chemicals Inc
3509 Middle Road
Ashtabula, Ohio 44005**

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

D A N G E R

Poisonous liquid and vapor Inhalation of vapors may be fatal Chloropicrin is readily identifiable by smell Exposure to very low concentrations of vapor will cause irritation of eyes nose and throat Continued exposure after irritation 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 Harmful or fatal if swallowed

Personal Protective Equipment (PPE)

Some materials that are chemical resistant to this product are PPE constructed of Saranex neoprene and chlorinated polyethylene provide short term contact or splash protection against liquid in this product For more options follow the instructions for Category H on the chemical resistance category selection chart Longer term protection is provided by PPE constructed of Viton Teflon and EVAL barrier laminates (for example responder suits manufactured by Life Guard or Silvershield gloves manufactured by North) Where chemical resistant materials are required leather canvas or cotton materials must not be worn as the sole article of protection when contact with this product is possible

When performing tasks with NO potential for contact with liquid fumigant, all handlers (including applicators) must wear

- Long sleeved shirt and long pants and
- Shoes and socks

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

- Long sleeved shirt and long pants
- Chemical resistant gloves
- Chemical resistant apron
- Protective eyewear (Do NOT wear goggles) and
- Chemical resistant footwear with socks

In addition when an air purifying respirator is required under this label s Directions for Use Protection for Handlers Respiratory Protection and Stop Work Triggers sections handlers must wear at minimum either

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

IMPORTANT A self contained breathing apparatus (SCBA) is not permitted for routine handler tasks

If responding to an emergency or when corrective action is needed to reduce air concentrations to acceptable levels wear an SCBA Escape only SCBA respirators must not be used by handlers for responding to emergencies In addition wear PPE required for potential contact with liquid fumigant

USER SAFETY REQUIREMENTS

Follow manufacturer s instructions for cleaning/maintaining PPE If no such instructions for washables exist use detergent and hot water Keep and wash PPE separately from other laundry

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

USER SAFETY RECOMMENDATIONS

Users should

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to mammals and birds Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark Do not contaminate water when disposing of equipment washwaters or rinsate

Chloropicrin has certain properties and characteristics in common with chemicals that have been detected in groundwater (chloropicrin is highly soluble in water and has low adsorption to soil)

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

PHYSICAL OR CHEMICAL HAZARDS

ASHTA GOLD may be corrosive under certain conditions DO NOT USE WATER to clean equipment Flush equipment with nitrogen compressed air or solvent Do not use handling equipment or containers made from magnesium aluminum or alkali metals [See the Calibration Set Up Repair and Maintenance for Application Rigs section of this label for further requirements for application equipment] ASHTA GOLD is a nonflammable liquid

DIRECTIONS FOR USE

Restricted Use Pesticide

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

See label booklet for complete Directions for Use

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 C F R Part 170 Refer to label booklet under Agricultural Use Requirements in the Directions for Use section for information about this standard

STORAGE AND DISPOSAL

Do not contaminate water food or feed by storage and disposal

PESTICIDE STORAGE Store in a dry well ventilated area under lock and key Post as a pesticide storage area Persons moving handling or opening containers must wear the personal protective equipment specified in the Hazards to Humans section of this labeling Open container only in a well ventilated area

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

PESTICIDE CONTAINER HANDLING/CONTAINER DISPOSAL

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

RETURN CYLINDERS TO Return cylinders to the place of purchase as designated on the Bill of Sale Cylinders are the property of ASHTA Chemicals and must be returned promptly by collect auto freight (1) When a cylinder is empty the valve must be closed the safety cap screwed on the valve outlet and the valve protection bonnet must be replaced prior to its return to the shipper (2) Do not ship cylinders without safety caps or valve protection bonnets (3) When a cylinder is partially full and there is no further requirement for the product contact ASHTA Chemicals the distributor or dealer representative for return instructions (4) Containers must never be refilled by the consumer or used for any other product or purpose

HANDLING (1) Do not remove the valve protection bonnet and safety cap until the fumigant is about to be removed from the cylinder The safety cap and valve protection bonnet must be replaced when the cylinder is not in use (2) Do not subject cylinders to rough handling or to abnormal mechanical shock such as dropping bumping dragging or sliding (3) Do not use ropes slings hooks tongs and similar handling devices for unloading cylinders (4) A suitable hand truck fork truck or similar device to which the cylinders can be firmly secured must be used for transporting the heavier cylinders

SHIPPING This fumigant is classified in the U S Department of Transportation Hazardous Materials Regulations and must be shipped in accordance with DOT requirements Describe empty cylinders as having last contained Chloropicrin (Inhalation Hazard) Do not ship with foods feeds or clothing

Spill and Leak Procedures Evacuate everyone from the immediate area of the spill or leak For entry into affected area to correct problem wear the personal protective equipment specified in the *Personal Protective Equipment (PPE)* section Move leaking or damaged containers outdoors or to an isolated location Observe strict safety precautions Work upwind if possible Allow spilled fumigant to evaporate or to absorb onto vermiculite dry sand earth or similar absorbent material Such material must be disposed of on site or at an approved disposal facility Only correctly trained and PPE equipped handlers are permitted to perform such cleanup 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**

Refer to the label booklet for additional precautionary information, Directions for Use and Storage and Disposal instructions

Notice Read the entire label Use only according to label directions

[Booklet cover]

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USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

USER SAFETY RECOMMENDATIONS

Users should

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

ENVIRONMENTAL HAZARDS

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

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

PHYSICAL OR CHEMICAL HAZARDS

ASHTA GOLD may be corrosive under certain conditions. DO NOT USE WATER to clean equipment. Flush equipment with nitrogen, compressed air, or solvent. Do not use handling equipment or containers made from magnesium, aluminum, or alkali metals. [See the Calibration Set Up, Repair and Maintenance for Application Rigs section of this label for further requirements for application equipment.] ASHTA GOLD is a nonflammable liquid.

DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons either directly or through drift Only handlers may be in the application block from the start of the application until the entry restricted period ends and in the buffer zone during the buffer zone period For any requirements specific to your State or Tribe consult the agency responsible for pesticide regulation

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR 170 This Standard contains requirements for the protection of agricultural workers on farms forests nurseries and greenhouses and handlers of agricultural pesticides These requirements only apply to uses of this product that are covered by the Worker Protection Standard (WPS)

No instructions elsewhere on this labeling relieve users from complying with the requirements of the WPS

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

PPE for Entry during the Entry Restricted Period PPE for entry that is permitted by this labeling is listed in the *Personal Protective Equipment (PPE)* section of this labeling

Terms Used in This Labeling

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

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

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

Application Rate The ratio of fumigant mass applied compared to the soil surface area (e.g. pounds of product per acre) The application rate is expressed on this labeling in terms of either the treated area application rate or the broadcast equivalent application rate The treated area application rate relates to only the rate of fumigant applied to the portion of the field that is fumigated (e.g. rate

within the bed or strips) The broadcast equivalent application rate relates to the rate of fumigant applied within the entire perimeter of the application block For bedded and strip applications the broadcast equivalent application rate must be calculated to determine the buffer zone distance required by this labeling

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

Application is Complete The time at which the fumigant has stopped being delivered/dispensed into the soil and the soil has been sealed drip lines have been purged (if applicable)

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

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

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

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

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

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

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

Application Restrictions

The use of this product is restricted to the methods described in this label Do not apply through any type of irrigation system

Certified Applicator Training

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

Product Information

ASHTA GOLD is a highly hazardous material and must be used only by certified applicators or persons under their direct supervision who are trained in its proper use Before using read and follow all labeling precautions and directions

All persons working with this fumigant must be trained in the hazards use of required respirator equipment and detector equipment emergency procedures and proper use of the fumigant

ASHTA GOLD may be used as a preplant soil fumigant for control of many economic soilborne pests if present in soil at time of treatment Soil fumigation with ASHTA GOLD provides control or suppression of plant parasitic disease causing organisms including nematodes the bacterial pathogen Pseudomonas solanacearum fungi in the genera Cylindrocladium Fusarium Phytophthora Pyrenochaeta Pythium Rhizoctonia Sclerotinia Sclerotium and Verticillium the clubroot organism Plasmodiophora and soil pox organism Actinomyces ipomoea Control of certain soil infesting insects such as cutworms grubs and wireworms may also be obtained as well as suppression of weeds if used with a tarpaulin

Keep pets livestock and other domestic animals out of the treated area during application and during tarp perforation and/or removal if a tarp is used

Handlers

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

- Monitoring fumigant air concentrations
- Cleaning up fumigant spills (this does not include emergency personnel not associated with the application)
- Handling or disposing of fumigant containers
- Cleaning handling adjusting or repairing the parts of application equipment that may contain fumigant residues and
- Performing any handling tasks as defined by the WPS (40 CFR 170)

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

monitoring tarps are considered handlers for the duration listed below) Prohibited activities (except for trained and equipped handlers) include

- Participating in the application as supervisors loaders drivers tractor co pilots shovelers cross ditchers or as other direct application participants
- Installing repairing operating or removing irrigation equipment
- Performing scouting crop advising or monitoring tasks
- Installing perforating (cutting punching slicing poking) or removing tarps and
- Repairing or monitoring tarps until 14 days after application is complete if tarps are not perforated and removed during those 14 days

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

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

Protection For Handlers

Supervision of Handlers

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

For handling activities that take place after the application is complete until the entry restricted period expires the certified applicator is not required to be on site but must have communicated in a manner that can be understood by the site owner and handlers responsible for carrying out those activities the information necessary to comply with the label and procedures described in the FMP (e g emergency response plans and procedures)

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

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

For all handling tasks at least two handlers must be present

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

Exclusion of Non Handlers From The Application Block and Buffer Zone

The certified applicator supervising the application and the owner of the establishment where the application is taking place must make sure that all persons who are not trained and PPE equipped and who are not performing one of the handling tasks as stated in this labeling are

- excluded from the application block during the entry restricted period and

- excluded from the buffer zone during the buffer zone period (see buffer zone exemption for transit on roadways in Buffer Zone Requirements section)
- Local state or federal officials performing inspection sampling or other similar official duties are not excluded from the application block or the buffer zone by this labeling. The certified applicator supervising the application and the owner of the establishment where the application is taking place are not authorized to or responsible for excluding those officials from the application block or the buffer zone

Providing, Cleaning, and Maintaining PPE

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

Air Purifying Respirator Availability

The employer of any handler must confirm that an air purifying respirator and appropriate cartridges/canisters of the type specified in the PPE section of this labeling are immediately available for each handler who will wear one. At a minimum two handlers must have the appropriate air purifying respirator and cartridges/canisters available (see *Respirator Fit Testing, Medical Qualification, and Training* section for additional requirements)

Exception: Air purifying respirators do not need to be made available for handlers performing fumigant site monitoring tasks outside of the buffer zone. Cartridges or canisters must be replaced when odor or sensory irritation from this product becomes apparent during use if the measured concentration of chloropicrin is greater than or equal to 1.5 ppm or after 8 hours of cumulative use whichever occurs first.

Respirator Fit Testing, Medical Qualification, and Training

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

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

Respiratory Protection and Stop Work Triggers

The following procedures must be followed to determine whether an air purifying respirator (full facepiece or gas mask) is required or if operations must cease for any person performing a handling task (except for fumigant site monitoring outside of the buffer zone) as stated in this label.

- If at any time any handler experiences sensory irritation (tearing burning of the eyes or nose) then either
 - An air purifying respirator (full facepiece or gas mask) must be worn by all handlers who remain in the application block or surrounding buffer zone or
 - Operations must cease and handlers not wearing an air purifying respirator (full facepiece or gas mask) must leave the application block and surrounding buffer zone
- Handlers can remove air purifying respirators (full facepiece or gas mask) 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 an air purifying respirator (full facepiece or gas mask) must be worn by the handler taking the air samples. Samples must be taken at the location where the irritation was first experienced.
- When using monitoring devices to monitor air concentration levels a direct read detection device such as an electronic device or a colorimetric device (e.g. Matheson Kitagawa Draeger or Sensidyne) must be used. The devices must have sensitivity of at least 0.15 ppm for chloropicrin. Persons using direct read detection devices must follow the manufacturer's directions.
- When breathing zone samples are required they must be taken outside respiratory protection equipment and within a 10 inch radius of the handler's nose and mouth.
- When air purifying respirators (full facepiece or gas mask) are worn air monitoring samples must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task.
- If at any time (1) a handler experiences sensory irritation when wearing an air purifying respirator (full facepiece or gas mask) or (2) a chloropicrin 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 surrounding buffer zone.
- Handlers can resume work activities without air purifying respirators (full facepiece or gas mask) 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 an air purifying respirator (full facepiece or gas mask) must be worn by the handler taking the air samples. Samples must be taken at the location where the irritation was first experienced or where sample(s) were greater than or equal to 1.5 ppm.
- Handlers can resume work activities if all of the following conditions exist provided an air purifying respirator (full facepiece or gas mask) is worn
 - two consecutive breathing zone samples for chloropicrin taken at the handling site at least 15 minutes apart must be less than 1.5 ppm
 - handlers do not experience sensory irritation while wearing the air purifying respirator (full facepiece or gas mask) and
 - filter cartridges/canisters have been changed
 - During the collection of air samples an air purifying respirator (full facepiece or gas mask) must be worn by the handler taking the air samples. Samples must be taken at the location where the irritation was first experienced or where sample(s) were greater than or equal to 1.5 ppm

TARP PERFORATION AND/OR REMOVAL

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

- Tarps must not be perforated until a minimum of 5 days (120 hours) have elapsed after the application is complete unless a weather condition exists which necessitates early tarp perforation or removal (see *Early Tarp Removal for Broadcast Applications Only* and *Early Tarp Perforation during Flood Prevention Activities for Bedded Applications Only* requirements)
- If tarps are perforated within 14 days after the application is complete tarp removal must not begin until at least 2 hours after tarp perforation is complete
- If tarps are not perforated or removed within 14 days after the application is complete planting or transplanting may take place while the tarps are being perforated
- Each tarp panel used for broadcast application must be perforated
- Tarps may be perforated manually ONLY for the following situations
 - 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 applications must be completed before noon
- For broadcast applications tarps must not be perforated if rainfall is expected within 12 hours
- Early Tarp Removal for Broadcast Applications Only
 - Tarps may be removed before the required 5 days (120 hours) if adverse weather conditions have compromised the integrity of the tarp provided that the compromised tarp poses a safety hazard *Adverse weather* includes high wind hail or storms that blow tarps off the field and create a hazard e.g. tarps blowing into power lines and onto roads *A compromised tarp* is a tarp that due to an adverse weather condition is no longer performing its intended function and is creating a hazard
- Early Tarp Perforation during Flood Prevention Activities for Bedded Applications Only
 - Tarp perforation is allowed before the 5 days (120 hours) have elapsed
 - Tarps must be immediately retucked and packed after soil removal

ENTRY RESTRICTED PERIOD AND NOTIFICATION

ENTRY RESTRICTED PERIOD

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

- 5 days (120 hours) after the application is complete for untarped applications or
- 5 days (120 hours) after the application is complete if tarps are not perforated and removed for at least 14 days after the application is complete or
- 48 hours after tarp perforation is complete if tarps will be perforated within 14 days after the application is complete and will not be removed for at least 14 days after the application is complete or

- tarp removal is completed if tarps are both perforated and removed less than 14 days after the application is complete

NOTES

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

NOTIFICATION Notify workers of the application by warning them orally and by posting Fumigant Treated Area signs. The signs must bear the skull and crossbones symbol and state **DANGER/PELIGRO**

Area under fumigation **DO NOT ENTER/NO ENTRE**

Chloropicrin Fumigant in USE

the date and time of fumigation

the date and time entry restricted period is over

ASHTA GOLD and

Name, address, and telephone number of the certified applicator in charge of the fumigation

Post the Fumigant Treated Area sign instead of the WPS sign for this application but follow all WPS requirements pertaining to location, legibility, text size, and sign size (40 CFR § 170.120)

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

Fumigant Treated Area signs must remain posted for no less than the duration of the entry restricted period

Fumigant Treated Area signs must be removed within 3 days after the end of the entry restricted period

Mandatory Good Agricultural Practices (GAPs)

The following GAPs must be followed during all fumigant applications

Planting Interval

Planting or transplanting must not occur until at least 14 days after the application is complete. The soil must not be disturbed for 14 days following treatment. Do not plant seeds or transplants until the fumigant odor has left the soil. Cool or wet weather following treatment will retard diffusion of the fumigant, requiring a longer soil exposure and aeration period. Should these conditions occur, hasten aeration after 14 days by working the bed to the depth of injection, taking care to avoid reinfestation of the fumigated zone with contaminated equipment and untreated soil.

Tarps (when tarps are used in ASHTA Gold applications)

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

Note to reviewer: Text in [brackets] indicates optional text or note to reviewer and will not appear on final printed label

Edit date: 2012 06 01

Weather Conditions

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

Identifying Unfavorable Weather Conditions

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

Soil 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 5 to 8 inches
- Field trash must be properly managed Residue from a previous crop must be worked into the soil to allow for decomposition prior to the start of the application Little or no crop residue shall be present on the soil surface Crop residue that is present must not interfere with the soil seal Removing the crop residue prior to the start of the application is important to limit the natural chimneys that occur in the soil when crop residue is present These chimneys allow the soil fumigants to move through the soil quickly and escape into the atmosphere This may create potentially harmful conditions for workers and bystanders and limit the efficacy of the fumigant However crop residue on the field serves to prevent soil erosion from both wind and water and is an important consideration To accommodate erosion control fumigant efficacy and human health protection clear fields of crop residue as close to the start of the application as possible to limit the length of time that the soil would be exposed to potentially erosive weather conditions

ASHTA Gold Bedded and Broadcast Shank Applications Additional GAPS

In addition to the GAPS required for all ASHTA Gold soil fumigation applications the following GAPS apply for injection applications

Tarps (when tarps are used in ASHTA Gold applications)

- Tarps must be installed immediately after the fumigant is applied to the soil

Soil Preparation

- Trash pulled by the shanks to the ends of the field must be covered with tarp or soil depending on the application method before making the turn for the next pass

Soil Temperature

- Do not fumigate when soil temperature is below 50° F
- The maximum soil temperature at the depth of injection must not exceed 90° F at the beginning of the application
 - If air temperatures have been above 100°F in any of the three days prior to the start of the application then soil temperature must be measured and recorded in the FMP Record temperature measurements at the application depth or 12 inches whichever is shallower

For best results the soil temperature at the depth of application should be between 60 85 degrees F

Soil Sealing

- *For Broadcast Untarped Applications* Use a disc or similar equipment to uniformly mix the soil to at least a depth of 3 to 4 inches to eliminate the chisel or plow traces Following elimination of the chisel trace the soil surface must be compacted with a cultipacker ring roller and roller in combination with tillage equipment
- *For Bedded Applications* Preformed beds must be sealed by disruption of the chisel trace using press sealers bed shapers cultipackers or by re shaping (e.g. relisting lifting replacing) the beds immediately following injection Beds formed at the time of application must be sealed by disrupting the chisel trace using press sealers or bed shapers
- *For Tarped Applications* The use of a tarp does not eliminate the need to minimize chisel traces prior to application of the tarp such as by using a Nobel plow or other injection shank that disrupts the chisel traces

Soil Moisture

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

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

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

Application Depth

- *For Tarped Broadcast and Tarped Bedded Applications* The injection point must be a minimum of 8 inches from the nearest final soil/air interface
- *For Untarped Bedded Applications* The injection point must be a minimum of 12 inches from the nearest final soil/air interface
- *For Untarped Broadcast Applications* The injection point must be a minimum of 10 inches from the nearest final soil/air interface
- *For Untarped Broadcast Deep Applications* The injection point must be a minimum of 18 inches from the nearest final soil/air interface

Application Methods and Equipment

- For broadcast field applications inject this product with a chisel type applicator having chisels spaced no more than 12 inches apart
- For application as a row or bed treatment in the field this product should be applied using one chisel shank per row to inject the fumigant

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

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

- Brass carbon steel or stainless steel fittings must be used throughout Polyethylene tubing polypropylene tubing Teflon® tubing or Teflon® lined steel braided tubing must be used for all low pressure lines drain lines and compressed gas or air pressure lines All other tubing must be Teflon® lined steel braided
- Galvanized PVC nylon or aluminum pipe fittings must not be used
- All rigs must include a filter to remove any particulates from the fumigant and for pressurized systems a check valve to prevent backflow of the fumigant into the pressurizing cylinder or the compressed air system
- Rigs must include a flow meter or a constant pressure system with orifice plates to ensure the proper amount of fumigant is applied
- To prevent the backflow of fumigant into the compressed gas cylinder (e.g. nitrogen other inert gas compressed air) if used applicators must
 - Ensure that positive pressure is maintained in the compressed gas cylinder at not less than 200 psi during the entire time it is connected to the application rig if a compressed gas cylinder is used (*This is not required for a compressed air system that is part of the application rig because if the compressor system fails the application rig will not be operable*)
 - Ensure that application rigs are equipped with properly functioning check valves between the compressed gas cylinder or compressed air system and the fumigant cylinder The check valve is best placed on the outlet side of the pressure regulator and is oriented to only allow compressed gas to flow out of the cylinder or compressed air out of the compressed air system
 - A pressure relief valve must be installed between the regulator and the check valve to ensure a regulator failure does not overpressurize the fumigant cylinder
 - Always pressurize the system with compressed gas or by use of a compressed air system before opening the fumigant cylinder valve
- Before using a fumigation rig for the first time or when preparing it for use after storage the operator must check the following items carefully
 - Check the filter and clean or replace the filter element as required
 - Check all tubes and chisels to make sure they are free of debris and obstructions
 - Check and clean the orifice plates and screen checks if installed
 - Pressurize the system with compressed gas or compressed air and check all fittings valves and connections for leaks using soap solution
- Install the fumigant cylinder and connect and secure all tubing Slowly open the compressed gas or compressed air valve and increase the pressure to the desired level Slowly open the fumigant cylinder valve always watching for leaks
- When the application is complete close the fumigant cylinder valve and blow residual fumigant out of the fumigant lines into the soil using compressed gas or compressed air If the rig uses a centrifugal pump instead of compressed gas to inject fumigant into the soil you may clear residual fumigant from the fumigant lines using an application wand connected to the system's low point via a drain hose Place the wand in the soil until all residual fumigant has drained from the system The wand and drain hose must be free of dirt to allow proper drainage At the end of the application season disconnect all fumigant cylinders from the application rig At the end of the season seal all tubing openings with tape to prevent the entry of insects and dirt

Application equipment must be calibrated and all control systems must be working properly Proper calibration is essential for application equipment to deliver the correct amount of fumigant uniformly

to the soil Refer to the manufacturer s instructions on how to calibrate your equipment usually the equipment manufacturer fumigant dealer or Cooperative Extension Service can provide assistance

**TABLE 1
ASHTA GOLD PRE-PLANT SOIL FUMIGATION USES
MAXIMUM APPLICATION RATES**

Field soils to be planted to	Per treated acre application rates (pounds product/acre) for untarped broadcast shank injection applications	Per treated acre application rates (pounds product/acre) for tarp shank injection, untarped bed shank injection, and untarped deep (18 inches) shank injection applications
Cucumbers eggplant melons	175	200 350
Onions	175	130 300
Sweet Potatoes	150 175	100 300
Tobacco	150 175	100 350
All Other Crops	150 175	100 350

Calculating the Broadcast Equivalent Application Rate

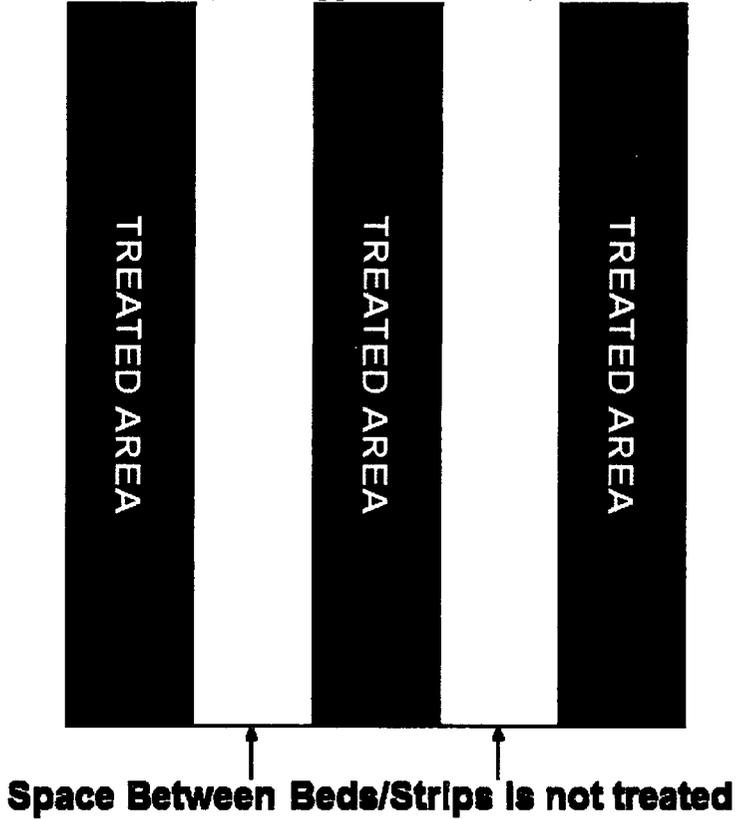
To calculate the broadcast equivalent rate for bedded or strip applications the following information is needed

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

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

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

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



The broadcast equivalent rate must be calculated with the following formula

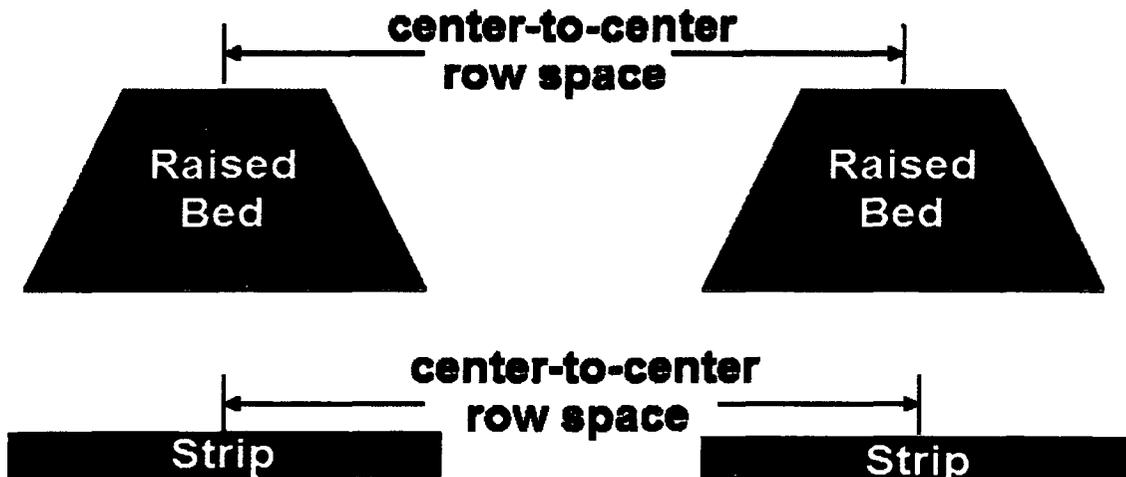
$$\text{Broadcast equivalent rate (pounds product/acre)} = \frac{\text{strip or bed bottom width (inches)}}{\text{center to center row spacing (inches)}} \times \text{pounds of product/ treated acre applied in the strip or bed}$$

The bed width must be measured from the bottom of the bed

The center to center row spacing must be calculated as shown in Figure 2

If there are any ditches waterways drive rows and other areas that are not fumigated that are in the application block multiply the above broadcast equivalent equation by (total area of strips or beds + row spacing)/(application block size) A sample calculation is provided below

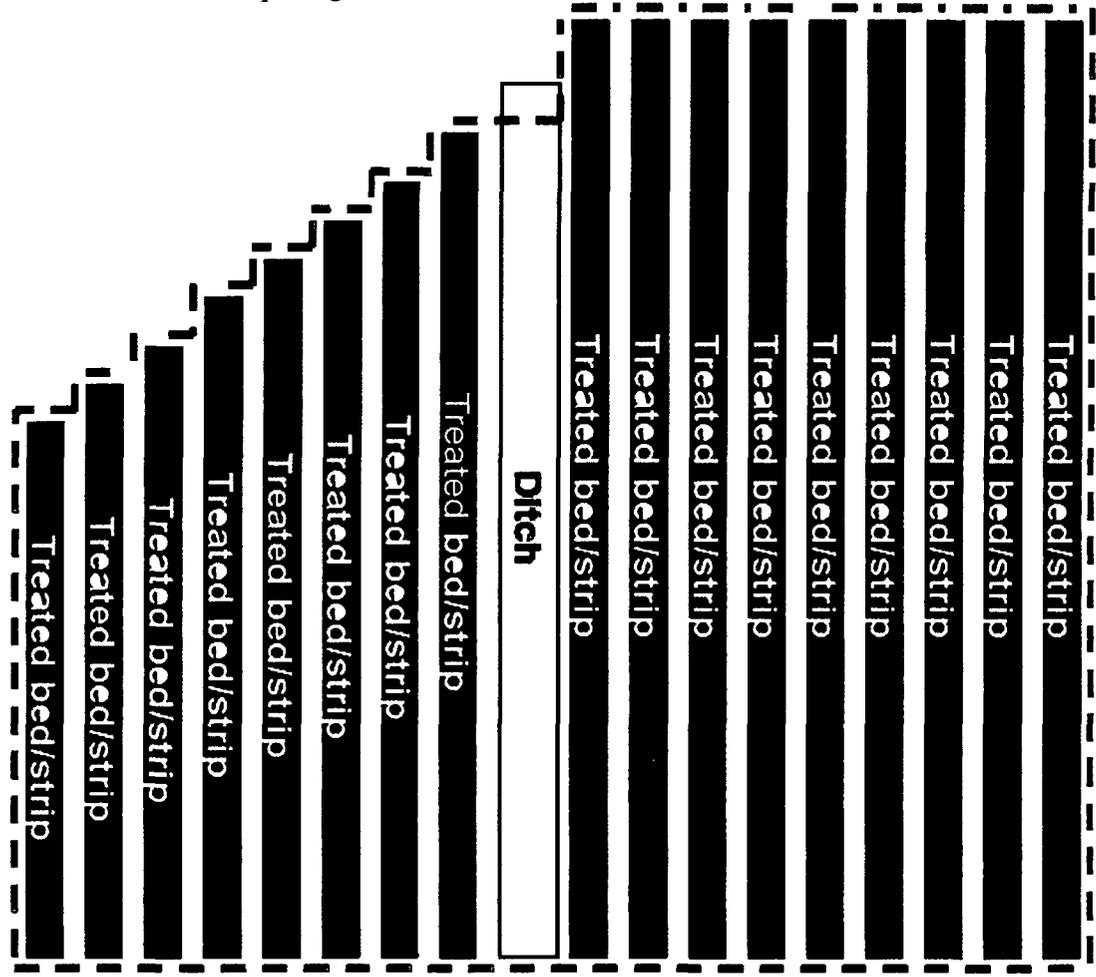
Figure 2 Center Row Spacing



Sample broadcast equivalent rate calculation

Assumptions

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



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

Buffer Zone Requirements

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

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

Buffer zone proximity

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

Structures under the control of the owner of the application block

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

Areas not under the control of the owner of the application block

- Buffer zones must not include residential areas (e.g., employee housing, private property) buildings (e.g., commercial, industrial), outdoor residential areas (e.g., lawns, gardens, play areas) and other areas that people may occupy UNLESS
 1. The occupants provide written agreement prior to the start of the application that they will voluntarily vacate the buffer zone during the entire buffer zone period, and
 2. Reentry by occupants and other non-handlers must not occur until
 - The buffer zone period has ended, and
 - Sensory irritation is not experienced upon re-entry.
- Buffer zones must not include agricultural areas owned and/or operated by persons other than the owner of the application block UNLESS
 1. The owner of the application block can ensure that the buffer zone will not overlap with a chloropicrin buffer zone from any other property owners, except as provided in the *Buffer Zone Proximity* section, and

2 The owner of the other property provides written agreement to the applicator that they their employees and other persons will stay out of the buffer zone during the entire buffer zone period

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

Buffer Zone Exemption for Transit on Roadways

Vehicular and bicycle traffic on public and private roadways through the buffer zone is permitted (NOTE Buffer zones are not permitted to include bus stops or other locations where persons wait for public transit)

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

Certified applicators must comply with all local laws and regulations

See the *Posting* section for additional requirements that may apply

Buffer Zone Distances

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

- Buffer zone distances must be based on look up tables in this labeling (25 feet is the minimum distance regardless of site specific application parameters)
- If after applying all applicable buffer zone credits the buffer zone is greater than 1/2 mile (2 640 ft) then the application is prohibited
- For all other applications Tables 2 7 as appropriate for the methods of application must be used to determine the minimum buffer zone distances Round up to the nearest rate and block size where applicable Applications are prohibited for rates or block sizes that exceed what is presented in the buffer zone tables

BUFFER ZONE TABLES

Table 2 Strip Tarp Buffer Zone Distances in Feet

B d t Eq I Appl t R (ft p d /A)	Appl t Bl k Sz e (re)																												
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160	
45	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	30	35	35	
50	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	38	41	44	47
55	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	30	30	35	40	45	49	53	56	60	
60	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	36	50	55	60	65	70	76	81	87	
65	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	34	43	60	75	85	100	108	117	125	133	
70	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	38	50	75	100	115	130	141	152	163	173	
75	25	25	25	25	25	25	25	25	25	25	25	25	25	30	32	36	46	56	70	83	110	125	135	150	163	175	188	200	
80	25	25	25	25	25	25	25	25	25	25	25	25	25	30	31	39	48	68	88	102	116	130	145	160	175	190	204	219	233
85	25	25	25	25	25	25	25	25	25	25	25	25	25	30	34	46	59	89	119	134	149	164	179	194	209	226	244	261	279
90	25	25	25	25	25	25	25	25	25	25	30	33	41	50	65	79	114	149	166	184	196	214	232	249	269	290	311	331	
95	25	25	25	25	25	25	25	25	25	25	37	49	64	80	94	108	142	176	198	221	236	258	279	298	323	348	373	397	
100	25	25	25	25	25	25	25	25	25	25	45	64	87	110	123	136	170	203	230	258	277	302	326	348	377	406	435	463	
105	25	25	25	25	25	25	25	25	25	25	53	80	110	140	153	165	198	230	263	295	325	355	382	407	441	470	509	543	
110	25	25	25	25	25	25	30	30	31	32	66	100	129	157	170	184	218	253	280	306	356	389	419	446	483	520	558	595	
115	25	25	25	25	25	30	31	34	36	39	80	120	147	174	188	202	239	276	297	318	388	424	456	485	525	566	606	647	
120	25	25	25	25	25	30	34	38	42	46	93	140	166	191	206	221	260	299	314	329	419	458	493	524	568	611	655	699	
125	25	25	25	25	25	31	38	44	51	57	106	154	182	209	224	239	281	322	340	358	451	492	529	563	610	657	704	751	
130	25	25	25	25	25	34	44	53	62	71	117	163	195	228	243	258	302	346	375	404	482	526	566	602	652	702	753	803	
135	25	25	25	25	25	37	49	61	74	86	129	171	209	246	261	276	324	371	410	449	514	561	603	641	694	748	801	855	
140	25	25	25	25	25	40	55	70	85	100	140	180	223	265	280	295	345	395	445	495	545	595	640	680	737	793	850	907	
145	25	30	31	34	36	52	68	83	99	114	154	194	238	282	301	319	371	424	474	525	577	629	677	721	781	841	901	961	
150	25	31	36	42	48	64	80	96	112	129	169	209	254	299	321	344	398	452	504	555	609	664	714	761	825	888	952	1015	
155	25	34	42	51	59	76	93	109	126	143	183	223	270	316	342	368	424	481	533	585	641	698	751	802	869	936	1003	1070	
160	25	36	46	57	68	85	102	118	135	152	194	235	283	330	360	389	448	506	561	615	674	732	789	843	913	983	1054	1124	
165	25	37	49	61	74	90	107	123	140	156	201	245	293	340	374	408	469	529	587	645	706	766	826	884	957	1031	1104	1178	
170	25	39	52	66	79	96	112	128	144	161	208	255	303	350	388	426	489	552	614	675	738	801	863	924	1001	1078	1155	1232	
175	25	40	55	70	85	101	117	133	149	165	215	265	313	360	403	445	510	575	640	705	770	835	900	965	1045	1126	1206	1287	
180	25	41	57	72	87	104	120	137	153	170	221	273	322	370	415	457	525	591	658	725	792	859	926	993	1075	1158	1241	1323	
185	25	42	58	74	90	107	124	141	158	174	227	280	331	381	426	470	539	608	677	745	814	883	951	1020	1105	1190	1275	1360	
190	25	43	60	76	92	110	127	144	162	179	233	288	340	391	438	483	554	624	695	765	836	907	977	1048	1135	1222	1310	1397	
195	25	45	61	78	95	113	131	148	166	184	240	295	349	401	449	496	568	641	713	785	858	930	1003	1075	1165	1255	1344	1434	
200	25	46	63	80	97	115	134	152	170	189	246	303	358	411	461	509	583	657	731	805	880	954	1029	1103	1195	1287	1379	1470	
205	25	47	64	82	100	118	137	156	175	193	252	310	367	422	472	521	597	674	750	825	902	978	1054	1130	1225	1319	1413	1507	
210	30	48	66	84	102	121	140	160	179	198	258	318	376	432	484	534	612	690	768	846	924	1002	1080	1158	1255	1351	1448	1544	
215	30	49	68	86	104	124	144	163	183	203	264	326	385	442	495	547	627	706	786	866	946	1026	1106	1186	1284	1383	1482	1581	
220	31	50	69	88	107	127	147	167	187	207	270	333	393	453	507	559	641	723	805	886	968	1050	1131	1213	1314	1415	1516	1618	
225	32	51	71	90	109	130	150	171	192	212	276	341	402	463	518	572	656	739	823	906	990	1074	1157	1241	1344	1448	1551	1654	
230	33	53	72	92	112	133	154	175	196	217	283	348	411	473	530	585	670	756	841	927	1012	1097	1183	1268	1374	1480	1585	1691	
235	34	54	74	94	115	136	157	179	200	222	289	356	420	483	541	598	685	772	859	947	1034	1121	1209	1296	1404	1512	1620	1728	
240	34	55	75	96	117	139	160	182	204	226	295	363	429	494	553	610	699	789	878	967	1056	1145	1234	1323	1434	1544	1654	1765	
245	35	56	77	98	119	141	164	186	209	231	301	371	438	504	564	623	714	805	896	987	1078	1169	1260	1351	1464	1576	1689	1801	
250	36	57	79	100	121	144	167	190	213	236	307	379	447	514	576	636	729	821	914	1007	1100	1193	1286	1379	1493	1608	1723	1838	
255	36	58	80	102	124	147	171	194	217	240	313	386	456	525	587	648	743	838	933	1027	1122	1217	1311	1406	1523	1641	1758	1875	
260	37	59	82	104	126	150	174	198	221	245	319	394	465	535	599	661	758	854	951	1047	1144	1241	1337	1434	1553	1673	1792	1912	
265	38	61	83	106	129	153	177	201	225	250	326	401	474	545	610	674	772	870	969	1067	1166	1264	1363	1461	1583	1705	1827	1948	

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Table 3 Bed Tarp Buffer Zone Distances in Feet

	Application Block Size (acres)																												
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160	
75	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
80	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
85	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
90	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
95	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
100	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
105	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
110	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
115	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
120	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
125	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
130	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
135	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
140	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
145	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
150	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
155	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
160	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
165	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
170	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
175	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
180	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
185	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
190	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
195	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
200	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
205	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
210	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
215	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
220	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
225	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
230	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
235	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
240	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
245	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
250	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
255	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
260	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45
265	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	40	45

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Table 5 Broadcast Tarp Buffer Zone Distances in Feet

	Appl t Bl k s ze (A)																											
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160
70	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	30	35	40	45	50	55
80	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	32	37	40	43	45	45	50	55	60	64	69	73
90	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	30	39	49	55	61	65	65	70	70	76	82	88	93
95	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	31	46	61	70	79	83	88	95	95	103	111	119	127
100	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	33	53	73	85	97	110	115	120	125	135	146	156	167
105	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	60	85	100	115	130	145	160	170	184	198	213	227
110	25	25	25	25	25	25	25	25	25	25	30	34	36	38	45	51	78	104	120	136	150	165	180	190	206	222	238	253
115	25	25	25	25	25	25	25	25	25	25	34	42	46	51	59	68	95	122	140	158	170	185	200	210	228	245	263	280
120	25	25	25	25	25	25	25	25	25	25	38	51	57	64	74	84	113	141	160	179	195	215	230	240	260	280	300	320
125	25	25	25	25	25	25	25	25	25	25	42	59	68	76	89	101	130	159	180	201	221	241	260	275	298	321	344	367
130	25	25	25	25	25	25	25	25	25	25	46	68	79	89	103	117	148	178	200	222	242	262	282	297	322	347	371	396
135	25	25	25	25	25	25	25	25	25	25	51	76	89	102	118	134	165	196	220	244	268	290	310	330	358	385	413	440
140	25	25	25	25	25	25	25	25	25	25	55	85	100	115	133	150	183	215	240	265	290	315	335	355	385	414	444	473
145	25	25	25	25	25	30	30	32	34	34	64	94	112	129	147	164	198	231	259	286	311	335	360	380	412	443	475	507
150	25	25	25	25	25	30	32	35	39	42	73	104	124	144	161	179	213	248	277	306	335	364	390	415	450	484	519	553
155	25	25	25	25	25	30	35	40	46	51	82	113	135	158	175	193	229	264	296	327	357	385	415	440	477	513	550	587
160	25	25	25	25	25	32	39	46	52	59	91	122	147	172	190	207	244	281	314	348	382	415	450	480	520	560	600	640
165	25	25	25	25	25	34	42	51	59	68	100	131	159	186	204	221	259	297	333	369	404	439	474	504	546	588	630	672
170	25	25	25	25	25	35	46	56	66	76	109	141	171	201	218	236	275	314	351	389	427	465	503	536	581	625	670	715
175	25	25	25	25	25	37	49	61	73	85	118	150	183	215	233	250	290	330	370	410	450	490	530	565	612	659	706	753
180	25	30	30	30	32	45	58	70	83	96	129	161	194	226	249	271	312	353	394	434	474	514	554	589	638	687	736	785
185	25	30	32	36	39	53	66	80	93	106	140	173	205	238	265	291	334	376	417	459	499	539	579	614	665	716	768	819
190	25	30	36	41	46	61	75	89	103	117	151	184	217	249	281	312	355	399	441	483	523	563	603	638	691	744	798	851
195	25	32	39	46	54	68	83	98	113	128	162	196	228	261	297	333	377	421	464	507	547	587	627	662	717	773	828	883
200	25	34	43	52	61	76	92	107	123	139	173	207	240	272	313	354	399	444	488	531	571	611	651	686	744	801	858	915
205	25	36	46	57	68	84	100	117	133	149	184	219	251	284	329	374	421	467	511	556	596	636	676	711	770	829	888	948
210	25	38	50	63	75	92	109	126	143	160	195	230	263	295	345	395	443	490	535	580	620	660	700	735	796	858	919	980
215	25	39	54	68	82	99	116	132	149	166	203	239	274	309	359	409	456	504	549	594	634	674	714	749	812	874	937	999
220	25	41	57	73	89	106	122	139	155	171	210	249	286	324	373	422	470	519	564	609	649	689	729	764	827	891	954	1018
225	25	43	61	79	96	113	129	145	161	177	218	258	298	338	387	436	484	533	578	623	663	703	743	778	843	908	972	1037
230	25	45	64	84	104	119	135	151	167	183	225	267	310	352	401	449	498	547	592	637	677	717	757	792	858	924	990	1056
235	25	46	68	89	111	126	142	157	173	189	233	276	321	366	415	463	512	561	606	651	691	731	771	806	874	941	1008	1075
240	25	48	71	95	118	133	148	164	179	194	240	286	333	381	429	476	526	576	621	666	706	746	786	821	889	958	1026	1094
245	25	50	75	100	125	140	155	170	185	200	248	295	345	395	443	490	540	590	635	680	720	760	800	835	905	974	1044	1113
250	25	51	77	103	129	144	159	174	189	204	254	303	355	407	453	499	551	604	656	708	748	788	828	863	935	1007	1079	1150
255	25	52	79	105	132	147	163	178	193	209	260	311	365	419	463	507	563	619	677	736	776	816	856	891	965	1039	1113	1188
260	25	53	80	108	136	151	167	182	197	213	266	319	375	431	474	516	574	633	698	764	804	844	884	919	995	1072	1148	1225
265	25	54	82	111	139	155	170	186	202	217	272	326	385	444	484	524	586	647	719	791	831	871	911	946	1025	1104	1183	1262
270	25	54	84	113	143	159	174	190	206	221	278	334	395	456	494	533	597	661	740	819	859	899	939	974	1055	1137	1218	1299
275	25	55	86	116	146	162	178	194	210	226	284	342	405	468	505	541	609	676	761	847	887	927	967	1002	1086	1169	1253	1336
280	25	56	88	119	150	166	182	198	214	230	290	350	415	480	515	550	620	690	783	875	915	955	995	1030	1116	1202	1288	1373
285	25	57	89	122	154	171	188	205	222	239	300	361	423	484	526	569	642	715	798	881	921	961	1001	1036	1123	1209	1295	1382
290	25	58	91	124	158	176	194	212	230	248	310	373	430	488	538	588	664	740	814	888	928	968	1008	1043	1129	1216	1303	1390
295	25	59	93	127	161	180	199	218	237	256	320	384	438	491	549	606	686	765	829	894	934	974	1014	1049	1136	1224	1311	1398
300	25	60	95	130	165	185	205	225	245	265	330	395	445	495	560	625	708	790	845	900	940	980	1020	1055	1143	1231	1319	1407
305	30	64	100	136	172	192	212	233	253	273	341	408	460	512	573	633	718	803	862	920	960	1000	1040	1075	1165	1254	1344	1433
310	32	68	105	142	178	199	220	240	261	282	352	422	475	528	585	642	729	817	878	940	980	1020	1060	1095	1186	1278	1369	1460
315	35	73	110	148	185	206	227	248	269	290	363	435	490	545	598	650	740	830	895	960	1000	1040	1080	1115	1208	1301	1394	1487
320	37	75	113	151	189	210	231	252	273	294	367	441	498	554	608	661	752	843	906	969	1012	1052	1092	1127	1221	1315	1409	1503
325	39	78	116	155	194	214	235	256	276	297	372	446	505	564	618	671	764	856	916	977	1027	1077	1117	1155	1251	1348	1444	1540
330	41	81	120	159	198	218	239	260	280	301	376	452	513	573	628	682	775	869	927	986	1036	1086	1126	1166	1263	1360	1458	1555
335	44	83	123	163	202	223	243	263	284	304	381	458	520	582	638	693	787	881	938	994	1044	1094	1139	1179	1277	1376	1474	1572
340	46	86	126	16																								

Table 6 Broadcast Untarp Buffer Distances in Feet

Broadcast Application Rate (lbs product/A)	Application Block Size (Acres)																													
	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160		
30	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	35	40	45	50	55	60	65	70	
35	25	25	25	25	25	25	25	25	25	25	25	25	25	25	30	35	43	50	63	75	85	95	105	115	125	134	144	153		
40	25	25	25	25	25	25	25	25	25	25	25	25	25	25	38	50	80	110	138	165	175	185	200	210	228	245	263	280		
45	25	25	25	25	25	25	25	25	25	25	25	25	25	41	58	76	95	133	170	201	233	253	283	310	330	358	385	413	440	
50	25	25	25	25	25	25	25	25	25	25	25	25	25	58	90	115	140	185	230	265	300	335	370	405	440	477	513	550	587	
55	25	25	25	25	25	25	25	25	25	25	25	25	46	68	100	133	161	190	238	285	325	365	405	445	485	520	563	607	650	693
60	25	25	25	25	25	25	25	25	25	25	25	25	68	110	143	175	208	240	290	340	385	430	470	510	550	585	634	683	731	780
65	25	25	25	25	25	30	33	37	41	45	95	145	183	220	253	285	343	400	448	495	540	585	630	670	726	782	838	893		
70	25	25	25	25	25	33	41	49	57	65	123	180	223	265	298	330	395	460	510	560	610	660	710	755	818	881	944	1007		
75	25	25	30	30	30	42	56	70	84	98	158	218	263	307	343	380	452	523	578	633	688	743	798	848	919	989	1060	1131		
80	25	30	30	30	32	52	72	92	112	132	194	257	303	348	389	430	508	587	647	707	767	827	887	942	1021	1099	1178	1256		
85	25	30	30	33	35	61	87	113	139	165	230	295	343	390	435	480	565	650	715	780	845	910	975	1035	1121	1208	1294	1380		
90	25	34	43	52	61	86	111	136	161	186	248	309	366	423	473	523	616	709	794	879	949	1019	1089	1154	1250	1346	1443	1539		
95	25	41	56	72	88	112	136	160	184	208	265	323	389	455	510	565	666	768	873	978	1053	1128	1203	1273	1379	1485	1591	1697		
100	25	47	69	92	114	137	160	183	206	229	283	336	412	488	548	608	717	826	951	1076	1156	1236	1316	1391	1507	1623	1739	1855		
105	25	54	83	111	140	162	184	206	228	250	300	350	435	520	585	650	768	885	1030	1175	1260	1345	1430	1510	1636	1762	1888	2013		
110	25	56	88	119	150	173	196	218	241	264	325	386	473	559	628	696	817	938	1079	1220	1310	1400	1490	1575	1706	1838	1969	2100		
115	25	59	93	126	160	184	207	231	254	278	350	422	510	598	670	742	867	991	1128	1265	1360	1455	1550	1640	1777	1913	2050	2187		
120	25	61	98	134	170	194	219	243	268	292	375	458	548	637	713	788	916	1044	1177	1310	1410	1510	1610	1705	1847	1989	2131	2273		
125	25	64	103	141	180	205	230	256	281	306	400	494	585	676	755	834	966	1097	1226	1355	1460	1565	1670	1770	1918	2065	2213	2360		
130	25	66	108	149	190	216	242	268	294	320	425	530	623	715	798	880	1015	1150	1275	1400	1510	1620	1730	1825	1977	2129	2281	2433		
135	25	71	118	164	210	238	265	293	320	348	450	553	651	750	833	915	1040	1165	1314	1463	1578	1695	1810	1925	2085	2246	2406	2567		
140	25	76	128	179	230	259	288	317	346	375	475	575	680	785	868	950	1065	1180	1353	1525	1645	1765	1885	2005	2172	2339	2506	2673		
145	25	78	130	183	235	268	301	334	367	400	500	600	706	811	903	994	1108	1223	1402	1581	1706	1831	1956	2080	2253	2427	2600	2773		
150	25	79	133	186	240	277	314	351	388	425	525	625	731	838	938	1038	1151	1265	1451	1638	1768	1900	2030	2160	2340	2520	2700	2880		
155	25	80	135	190	245	286	327	368	409	450	550	650	757	864	973	1081	1194	1308	1501	1694	1850	1990	2130	2265	2454	2643	2831	3020		
160	25	81	138	194	250	295	340	385	430	475	575	675	783	890	1008	1125	1238	1350	1550	1750	1910	2070	2230	2380	2578	2777	2975	3173		
165	25	85	146	206	267	310	353	397	440	483	595	707	817	927	1038	1150	1283	1417	1600	1783	1943	2103	2263	2400	2600	2800	3000	3200		
170	25	90	154	219	283	325	367	408	450	492	615	738	851	963	1069	1175	1329	1483	1650	1817	1982	2132	2285	2425	2627	2829	3031	3233		
175	25	94	163	231	300	340	380	420	460	500	635	770	885	1000	1100	1200	1375	1550	1700	1850	2000	2150	2300	2450	2654	2858	3063	3267		

Buffer zone distances cannot be greater than 1/2 mile (2 640 feet) If after applying applicable credits the buffer zone distances are still greater than 1/2 mile (2 640 feet) then the application is prohibited

Table 7 Broadcast Deep (18 inches) Untarp Buffer Zone Distances in Feet

		Application Block Size (Acres)																											
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160
Broadcast Application Rate (lbs product/A)	30	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	35	45	55	65	70	76	81	87
	35	25	25	25	25	25	25	25	25	25	25	30	30	33	35	38	41	44	48	51	55	67	80	92	105	113	122	131	139
	40	25	25	25	25	25	25	25	25	25	25	30	35	40	46	51	57	63	70	77	84	99	114	129	144	156	168	180	192
	45	25	25	25	25	25	25	25	25	25	25	33	40	48	56	64	73	83	93	103	114	134	154	174	194	210	226	242	258
	50	25	25	25	25	25	25	25	25	25	25	35	45	56	67	78	88	102	115	129	143	168	193	218	243	263	284	304	324
	55	25	25	25	25	25	25	25	25	25	25	40	55	71	88	104	120	140	160	181	203	230	258	285	313	339	365	391	417
	60	25	25	25	25	25	25	25	25	25	25	45	65	87	108	130	152	178	205	233	262	292	322	352	382	414	446	478	509
	65	25	25	25	25	25	25	25	25	25	25	50	75	102	129	156	183	217	250	285	321	351	381	411	446	483	520	558	595
	70	25	25	25	25	25	25	25	25	25	25	55	85	118	150	183	215	255	295	338	380	410	440	470	510	553	595	638	680
	75	25	25	25	25	25	30	32	35	38	40	77	114	148	183	216	249	294	340	384	429	459	489	519	554	600	646	693	739
	80	25	25	25	25	25	33	39	45	51	55	99	143	179	215	249	283	334	385	431	478	508	538	568	598	648	698	748	797
	85	25	25	25	25	25	37	46	55	63	70	121	171	209	248	282	316	373	430	478	526	557	587	617	647	700	754	808	862
	90	25	25	25	25	25	42	53	65	76	85	143	200	240	280	315	350	413	475	525	575	605	635	665	695	753	811	869	927
	95	25	25	25	30	30	46	60	74	89	101	161	220	263	305	341	378	445	513	566	620	650	680	710	740	802	863	925	987
	100	25	25	30	30	30	50	67	84	102	118	179	240	285	330	368	405	478	550	608	665	695	725	755	785	850	916	981	1047
	105	25	30	30	33	35	58	81	104	127	150	215	280	330	380	420	460	543	625	690	755	785	815	845	875	948	1021	1094	1167
	110	25	32	38	45	51	74	97	120	143	166	234	301	355	408	450	493	579	665	735	804	839	874	909	944	1023	1101	1180	1259
	115	25	36	46	57	68	91	114	137	160	183	253	323	379	436	481	526	615	705	779	854	889	924	959	994	1077	1160	1243	1325
	120	25	40	55	69	84	107	130	153	176	199	272	344	404	464	511	559	652	745	824	903	938	973	1008	1043	1130	1217	1304	1391
	125	25	44	63	82	101	124	147	170	193	216	291	366	429	491	541	591	688	785	869	952	987	1022	1057	1092	1183	1274	1365	1456
130	25	48	71	94	117	140	163	186	209	232	310	387	453	519	572	624	725	825	913	1001	1036	1071	1106	1141	1236	1331	1426	1521	
135	25	52	79	106	134	157	180	203	226	249	329	409	478	547	602	657	761	865	958	1051	1091	1131	1171	1211	1312	1413	1514	1615	
140	25	56	88	119	150	173	196	219	242	265	348	430	503	575	633	690	798	905	1003	1100	1140	1180	1220	1260	1365	1470	1575	1680	
145	25	59	92	126	159	183	207	231	255	279	365	451	527	603	664	725	841	956	1061	1166	1206	1246	1286	1326	1437	1547	1658	1768	
150	25	61	97	133	169	193	218	243	267	292	382	471	551	631	695	760	884	1008	1120	1231	1271	1311	1351	1391	1507	1623	1739	1855	
155	25	63	101	140	178	203	229	255	280	306	399	492	575	659	727	795	927	1059	1178	1297	1337	1377	1417	1457	1578	1700	1821	1943	
160	25	66	106	147	187	214	240	266	293	319	416	513	600	686	758	830	970	1111	1237	1363	1413	1453	1493	1533	1661	1789	1916	2044	
165	25	68	111	154	196	224	251	278	306	333	433	534	624	714	790	865	1014	1162	1295	1429	1474	1519	1564	1609	1743	1877	2011	2145	
170	25	70	115	161	206	234	262	290	318	346	450	554	648	742	821	900	1057	1214	1354	1494	1539	1584	1629	1674	1814	1953	2093	2232	
175	25	73	120	168	215	244	273	302	331	360	468	575	673	770	853	935	1100	1265	1413	1560	1605	1650	1695	1740	1885	2030	2175	2320	
180	25	75	126	176	226	257	287	317	347	377	491	605	704	803	886	969	1139	1309	1452	1594	1639	1684	1729	1774	1922	2070	2218	2365	
185	25	78	131	185	238	269	300	332	363	394	515	635	735	836	920	1004	1179	1354	1491	1629	1674	1719	1764	1809	1960	2111	2261	2412	
190	25	81	137	193	249	282	314	347	379	411	538	665	767	869	953	1038	1218	1398	1530	1663	1713	1763	1813	1863	2018	2174	2329	2484	
195	25	84	143	202	261	294	328	361	395	429	562	695	798	901	987	1072	1257	1442	1570	1697	1747	1797	1847	1897	2055	2213	2371	2529	
200	25	87	149	210	272	307	342	376	411	446	585	725	830	934	1020	1106	1296	1486	1609	1731	1781	1831	1881	1931	2092	2253	2414	2575	

Table 7 Broadcast Deep (18 inches) Untarp Buffer Zone Distances in Feet Continued

		Application Block Size (Acres)																											
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	50	60	70	80	90	100	110	120	130	140	150	160
Broadcast Application Rate (lbs product/A)	205	25	90	154	219	284	319	355	391	427	463	609	755	861	967	1054	1141	1336	1531	1648	1766	1816	1866	1916	1966	2130	2294	2458	2621
	210	25	93	160	228	295	332	369	406	443	480	633	785	893	1000	1088	1175	1375	1575	1688	1800	1850	1900	1950	2000	2167	2333	2500	2667
	215	32	101	170	238	307	345	383	420	458	496	650	805	913	1021	1111	1201	1409	1617	1721	1825	1875	1925	1975	2025	2194	2363	2531	2700
	220	39	109	179	249	319	358	396	435	473	511	668	825	934	1043	1135	1228	1444	1659	1755	1850	1900	1950	2000	2050	2221	2392	2563	2733
	225	46	118	189	260	331	371	410	449	488	527	686	845	955	1064	1159	1254	1478	1701	1788	1875	1925	1975	2025	2075	2248	2421	2594	2767
	230	54	126	199	271	344	383	423	463	503	543	704	865	975	1086	1183	1281	1512	1744	1822	1900	1950	2000	2050	2100	2275	2450	2625	2800
	235	61	134	208	282	356	396	437	477	518	559	722	885	996	1107	1207	1307	1546	1786	1855	1925	1975	2025	2075	2125	2302	2479	2656	2833
	240	68	143	218	293	368	409	450	492	533	574	740	905	1017	1129	1231	1334	1581	1828	1889	1950	2000	2050	2100	2150	2329	2508	2688	2867
	245	75	151	228	304	380	422	464	506	548	590	758	925	1038	1150	1255	1360	1615	1870	1923	1975	2025	2075	2125	2175	2356	2538	2719	2900
	250	82	159	235	312	389	431	474	516	559	601	769	936	1057	1179	1283	1387	1641	1896	1962	2029	2094	2159	2224	2289	2480	2671	2861	3052
	255	89	166	243	320	397	440	483	527	570	613	780	946	1077	1207	1311	1414	1668	1921	2002	2082	2162	2242	2322	2402	2602	2802	3003	3203
	260	96	174	251	328	406	449	493	537	581	624	791	957	1096	1236	1339	1441	1694	1947	2041	2136	2231	2326	2421	2516	2726	2935	3145	3355
	265	104	181	259	337	414	459	503	547	591	636	802	968	1116	1264	1366	1469	1721	1973	2081	2189	2299	2409	2519	2629	2848	3067	3286	3505
	270	111	189	267	345	423	468	513	557	602	647	813	979	1136	1293	1394	1496	1747	1999	2121	2243	2363	2483	2603	2723	2950	3177	3404	3631
	275	118	196	275	353	431	477	522	568	613	659	824	989	1155	1321	1422	1523	1774	2024	2160	2296	2431	2566	2701	2836	3072	3309	3545	3781
	280	125	204	283	361	440	486	532	578	624	670	835	1000	1175	1350	1450	1550	1800	2050	2200	2350	2500	2650	2800	2950	3196	3442	3688	3933
	285	129	208	287	366	446	493	541	588	635	683	853	1023	1201	1379	1479	1579	1836	2093	2243	2393	2543	2693	2843	2993	3242	3492	3741	3991
	290	132	212	292	372	451	500	549	598	647	696	871	1046	1226	1407	1507	1607	1871	2136	2286	2436	2586	2736	2886	3036	3289	3542	3795	4048
	295	136	216	296	377	457	507	558	608	658	709	889	1069	1252	1436	1536	1636	1907	2179	2329	2479	2629	2779	2929	3079	3336	3592	3849	4105
	300	139	220	301	382	463	515	566	618	670	721	906	1091	1278	1464	1564	1664	1943	2221	2371	2521	2671	2821	2971	3121	3381	3641	3901	4161
	305	143	224	306	387	469	522	575	628	681	734	924	1114	1304	1493	1593	1693	1979	2264	2414	2564	2714	2864	3014	3164	3428	3691	3955	4219
	310	146	228	310	392	474	529	583	638	693	747	942	1137	1329	1521	1621	1721	2014	2307	2457	2607	2757	2907	3057	3207	3474	3742	4009	4276
	315	150	233	315	398	480	536	592	648	704	760	960	1160	1355	1550	1650	1750	2050	2350	2500	2650	2800	2950	3100	3250	3521	3792	4063	4333
	320	151	235	319	403	486	543	599	656	712	769	973	1177	1371	1566	1675	1784	2085	2385	2559	2734	2909	3084	3259	3434	3720	4006	4293	4579
	325	153	238	323	408	493	550	607	663	720	777	986	1194	1388	1581	1700	1819	2119	2420	2619	2817	3015	3215	3415	3615	3916	4218	4519	4820
	330	154	241	327	413	499	557	614	671	728	786	999	1211	1404	1597	1725	1853	2154	2455	2678	2901	3130	3360	3590	3820	4138	4457	4775	5093
335	156	243	331	418	506	563	621	679	737	794	1011	1229	1421	1613	1750	1887	2189	2490	2737	2984	3229	3474	3719	3964	4294	4625	4955	5285	
340	157	246	335	423	512	570	628	687	745	803	1024	1246	1437	1629	1775	1921	2223	2525	2796	3068	3338	3608	3878	4148	4494	4839	5185	5531	
345	159	249	339	429	519	577	636	694	753	811	1037	1263	1454	1644	1800	1956	2258	2560	2856	3151	3446	3741	4036	4331	4692	5053	5414	5775	
350	160	251	343	434	525	584	643	702	761	820	1050	1280	1470	1660	1825	1990	2293	2595	2915	3235	3555	3875	4195	4515	4891	5268	5644	6020	

Buffer zone distances cannot be greater than 1/2 mile (2 640 feet) If after applying applicable credits the buffer zone distances are still greater than 1/2 mile (2 640 feet) then the application is prohibited

Buffer Zone Credits

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

- See www.tarpcredits.epa.gov for a list of tarps that have been tested and determined to qualify for buffer reduction credits Only tarps listed on this website qualify for buffer reduction credits 10% reduction in buffer zone distance IF the Symmetry™ application system is used with a tarp that qualifies for a credit and the application rate is ≤ 100 pounds a 1 /treated acre The 10% credit for the Symmetry™ application system is added to the buffer zone credit for the tarp For

example if the Symmetry™ application system is used with a tarp that qualifies for a 40% credit the total credit for the tarp and the application system would be 50%

- 15% reduction in buffer zone distance IF potassium thiosulfate (KTS) is applied at a minimum rate of 300 pounds per acre
- 15% reduction in buffer zone distance IF ¼ to ½ inch of water is applied
- 10% reduction in buffer zone distance IF the organic content of the soil in the application block is ≥ 1% 2% a 20% reduction in buffer zone distance IF the organic content of the soil in the application block is >2% 3% and a 30% reduction in the buffer zone distance IF the organic content of the soil in the application block is >3%
- 10% reduction in buffer zone distance IF the soil temperature is measured to be 50° F Record temperature measurements at the application depth or 12 inches whichever is shallower
- 10% reduction in the buffer zone distance IF the clay content of the soil in the application block is greater than 27%

Examples of Buffer Zone Calculations with Credits Applied

If the buffer zone is 50 feet and the application qualifies for a buffer zone credit since the soil organic content is 1.5% then the buffer zone can be reduced by 10% i.e. reduced by 5 feet based on the following calculation 50 feet – (50 feet x 10%) = 45 feet

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

Buffer Zone Posting

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

- The Buffer Zone signs must contain the following information

- The Do Not Walk symbol
- DO NOT ENTER/NO ENTRE
- Chloropicrin [ASHTA Gold] Fumigant BUFFER ZONE
- Contact information for the certified applicator in charge of the fumigation

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

Restrictions for Difficult to Evacuate Sites

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

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

Emergency Preparedness and Response Measures

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

Triggers for Emergency Preparedness and Response Measures

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

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

Fumigant Site Monitoring

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

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

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

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

Response Information for Neighbors

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

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

Information that must be included

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

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

Notice to State and Tribal Lead Agencies

If your state and/or tribal lead agency requires notice information must be provided to the appropriate state or tribal lead agency prior to the application Please refer to

www.epa.gov/fumigantstatenotice for a list of states and tribal lead agencies that require notice and information on how to submit the information

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

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

Emergency Response Plan

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

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

Site Specific Fumigation Management Plan (FMP)

Prior to the start of application, the certified applicator supervising the application must verify that a site specific FMP exists for each application block. In addition, an agricultural operation fumigating multiple application blocks may format the FMP in a manner whereby all of the information that is common to all the application blocks is captured once, and any information unique to a particular application block or blocks is captured in subsequent sections.

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

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

Each site specific FMP must contain the following elements:

- Certified Applicator Supervising the Application
 - Name
 - Phone number
 - Pesticide applicator license and/or certificate number
 - Specify if commercial or private applicator
 - Employer name
 - Employer address and
 - Date and location of completing EPA approved soil fumigant training program
- General site information
 - Application block location (e.g. county, township, range, section, quadrant), address, or global positioning system (GPS) coordinates
 - Name, address, and phone number of application block owner

- Map aerial photo or detailed sketch showing
 - application block location
 - application block dimensions
 - buffer zones dimensions
 - property lines
 - roadways
 - rights of ways
 - sidewalks
 - permanent walking paths
 - bus stops
 - nearby application blocks
 - surrounding structures (occupied and non occupied)
 - locations of Buffer Zone signs and
 - locations of difficult to evacuate sites with distances from the application block labeled

General application information

- target application date/window
- Fumigant Product Name and
- EPA registration number

Tarp Plan (if tarp is used)

- Schedule for checking tarps for damage tears and other problems
- Minimum size of damage that will be repaired
- Factors used to determine when tarp repair will be conducted
- Equipment/methods used to perforate tarps
- Target dates for perforating tarps and
- Target dates for removing tarps

Soil conditions

- Description of soil texture and moisture in application block
- Method used to determine soil moisture and
- Soil temperature measurement if air temperatures were above 100°F in any of the 3 days prior to the application

Buffer Zones

- Application method
- Injection depth
- Application rate from lookup table on label
- Application block size from lookup table on label
- Credits applied and measurements taken (if applicable)
 - Tarp brand name lot number thickness manufacturer batch number and part number
 - Symmetry™ application system
 - Potassium thiosulfate
 - Water Seal
 - Organic matter content
 - Clay content
 - Soil temperature
- Buffer zone distance and
- Description of areas in the buffer zone that are not under the control of the owner of the application block If buffer zones extend onto areas not under the control of the owner attach the written agreement and keep it with the FMP

Record Emergency Response Plan as described in the *Emergency Response Plan* section

Posting of Fumigant Treated Area and Buffer Zone

- Person(s) who will post and remove (if different) Fumigant Treated Area and Buffer Zone signs and
- Location of Buffer Zone signs

Emergency Preparedness and Response Measures (if applicable)

- Fumigant site monitoring (if applicable)
 - When and where it will be conducted
- Response information for neighbors (if applicable)
 - List of residences and businesses informed
 - Name and phone number of person providing information and
 - Method of providing the information

State and/or tribal lead agency notification (if state and/or tribal lead agency requires notice provide a list of contacts that were notified and date notified)

Plan describing how communication will take place between the certified applicator supervising the application the owner and other on site handlers (e.g tarp perforators/removers irrigators) for complying with label requirements (e.g buffer zone location buffer zone start and end times timing of tarp perforation and removal PPE)

- Name and phone number of persons contacted by the certified applicator and
- Date contacted

Handler (including Certified Applicators) Information and PPE

- Names addresses and phone numbers of handlers
- Names addresses and phone numbers for employers of handlers
- Tasks that each handler is authorized and trained to perform
- Date of PPE training for each handler
- Applicable handler PPE including
 - Long sleeved shirts/long pants shoes socks
 - Chemical resistant apron
 - Chemical resistant footwear
 - Protective eyewear (not goggles)
 - Chemical resistant gloves
 - Air purifying respirators
 - Respirator make model type style size cartridge type and cartridge/canister type
 - SCBAs
 - Respirator make model type style size
 - Other PPE

- For handlers Confirmation of receipt of Fumigant Safe Handling Information
- For certified applicator(s) supervising the application Completion date and location of the soil fumigant training program listed on the following EPA website www.epa.gov/fumigantraining for the active ingredient(s) in this product
- For handlers designated to wear respirators (air purifying respirator or SCBA)
 - Date of medical qualification to wear a respirator
 - Date of respirator training and
 - Date of fit testing for the respirator
- Unless exempted in the *Protection of Handlers* section verify that
 - at minimum 2 handlers have the appropriate respirators and cartridges/ canisters during handler activities and
 - the employer has confirmed that the appropriate respirator and cartridges/canisters are immediately available for each handler who will wear one

Air monitoring plan

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

Record Keeping Procedures

The owner of the application block as well as the certified applicator supervising the application must keep a signed copy of the site specific FMP for 2 years from the date of application

For situations where an initial FMP is developed and certain elements do not change for multiple application blocks (e.g. applicator information certified applicator handlers record keeping procedures emergency procedures) only elements that have changed need to be updated in the site specific FMP provided the following

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

The certified applicator must make a copy of the FMP immediately available for viewing by handlers involved in the application. The certified applicator or the owner of the application block must provide a copy of the FMP to any local/state/federal/tribal enforcement personnel who request the FMP. In the case of an emergency the FMP must be made immediately available when requested by local/state/federal/tribal emergency response and enforcement personnel. The certified applicator supervising the application must ensure the FMP is at the application block during all handler activities

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

Post Application Summary

The Post Application Summary must contain the following elements

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

- Tarp damage and repair information (if applicable)
 - Date of tarp damage discovery
 - Location and size of tarp damage
 - Description of tarp/tarp seal/tarp equipment failure and
 - Date and time of tarp repair completion
- Tarp perforation/removal details (if applicable)
 - Date and time tarps were perforated
 - Date and time tarps were removed and
 - Record if tarps were perforated and/or removed early Describe the conditions that caused early tarp perforation and/or removal
- Complaint details (if applicable)
 - Person filing complaint (e g on site handler person off site)
 - If off site person name address and phone number of person filing complaint and
 - Description of control measures or emergency procedures followed after complaint
- Description of incidents equipment failure or other emergency and emergency procedures followed (if applicable)
- Air monitoring results
 - When sensory irritation experienced
 - Date time location and handler task/activity where irritation was observed and
 - Resulting action (e g implement emergency response plan cease operations continue operations with air purifying respirators)
 - When using a direct read instrument
 - Sample date(s) time(s) location(s) and concentration(s)
 - Handler task/activity monitored (if applicable) and
 - Resulting action (e g cease operations continue operations with air purifying respirators)
- Fumigant Treated Area and Buffer Zone Signs
 - Dates of posting and removal
- Any deviations from the FMP (e g changes in emergency response actions changes in handler information changes in handlers responsible for completing emergency tasks changes in communication between certified applicator owner and other handlers etc)

Record keeping procedures

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

Spill and Leak Procedures

Evacuate everyone from the immediate area of the spill or leak For entry into affected area to correct problem wear the personal protective equipment specified in the *Personal Protective Equipment (PPE)* section Move leaking or damaged containers outdoors or to an isolated location Observe strict safety precautions Work upwind if possible Allow spilled fumigant to evaporate or to absorb onto vermiculite dry sand earth or similar absorbent material Such material must be disposed of on site or at an approved disposal facility Only correctly trained and PPE equipped handlers are permitted to perform such cleanup 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**

STORAGE AND DISPOSAL

Do not contaminate water food or feed by storage and disposal

PESTICIDE STORAGE Store in a dry well ventilated area under lock and key Post as a pesticide storage area Persons moving handling or opening containers must wear the personal protective equipment specified in the Hazards to Humans section of this labeling Open container only in a well ventilated area

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

PESTICIDE CONTAINER HANDLING/CONTAINER DISPOSAL

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

RETURN CYLINDERS TO Return cylinders to the place of purchase as designated on the Bill of Sale Cylinders are the property of ASHTA Chemicals and must be returned promptly by collect auto freight (1) When a cylinder is empty the valve must be closed the safety cap screwed on the valve outlet and the valve protection bonnet must be replaced prior to its return to the shipper (2) Do not ship cylinders without safety caps or valve protection bonnets (3) When a cylinder is partially full and there is no further requirement for the product contact ASHTA Chemicals the distributor or dealer representative for return instructions (4) Containers must never be refilled by the consumer or used for any other product or purpose

HANDLING (1) Do not remove the valve protection bonnet and safety cap until the fumigant is about to be removed from the cylinder The safety cap and valve protection bonnet must be replaced when the cylinder is not in use (2) Do not subject cylinders to rough handling or to abnormal mechanical shock such as dropping bumping dragging or sliding (3) Do not use ropes slings hooks tongs and similar handling devices for unloading cylinders (4) A suitable hand truck fork truck or similar device to which the cylinders can be firmly secured must be used for transporting the heavier cylinders

SHIPPING This fumigant is classified in the U S Department of Transportation Hazardous Materials Regulations and must be shipped in accordance with DOT requirements Describe empty cylinders as having last contained Chloropicrin (Inhalation Hazard) Do not ship with foods feeds or clothing

WARRANTY DISCLAIMER

Seller warrants that this product complies with the specifications expressed in this label SELLER MAKES NO OTHER WARRANTIES AND DISCLAIMS ALL OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE INTENDED PURPOSE To the extent consistent with applicable law Seller s liability for default breach or failure under this label shall be limited to the amount of the purchase price Seller shall have no liability for consequential damages

[SUBLABEL FOR REMEDIAL TREATMENT OF WOODEN POLES/TIMBERS]

[Note to reviewer Table of Contents is optional on final printed label based on label formatting]

Table of Contents

Treatment of Wood Poles Timbers Pilings and Glue Laminated Beams to
Control Internal Decay

Personal Protective Equipment (PPE)

Protection for Handlers

Storage Handling and Disposal

Warranty Disclaimer

**RESTRICTED USE PESTICIDE
DUE TO ACUTE TOXICITY**
For retail sale to and use by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator s certification

ASHTA GOLD

Active Ingredient	
Chloropicrin	99.3%
Other Ingredients	0.7%
Total	100.0%

This product weighs 14.15 lbs Per Gallon

KEEP OUT OF REACH OF CHILDREN

DANGER



POISON



[Note Poison will be printed in red]

PELIGRO

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

FIRST AID

IN ALL CASES OF OVEREXPOSURE GET MEDICAL ATTENTION IMMEDIATELY TAKE PERSON TO A DOCTOR OR AN EMERGENCY TREATMENT FACILITY

IF INHALED Move person to fresh air. If person is not breathing call 911 or an ambulance then give artificial respiration preferably mouth to mouth. Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING Take off contaminated clothing shoes and other items covering the skin. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF IN EYES Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses if present after the first 5 minutes then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

NOTE TO THE PHYSICIAN Chloropicrin is a volatile liquid that is the active ingredient in tear gas. As a gas it is a powerful lachrymator. Early symptoms of overexposure are lachrymation respiratory distress and vomiting. Pulmonary edema may develop later. Treatment is symptomatic.

[SEE SIDE PANEL[S] FOR ADDITIONAL PRECAUTIONARY STATEMENTS]

49/52

NET WEIGHT _____ LBS
LOT NO _____

EPA REG NO 62531 2
EPA EST NO 062531 OH 01

**ASHTA Chemicals Inc
3509 Middle Road
Ashtabula, Ohio 44005**

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

D A N G E R

Poisonous liquid and vapor Inhalation of vapors may be fatal Chloropicrin is readily identifiable by smell Exposure to very low concentrations of vapor will cause irritation of eyes nose and throat Continued exposure after irritation 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 Harmful or fatal if swallowed

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long sleeved shirt and long pants chemical resistant footwear and socks and gloves resistant to chloropicrin

[Note to Reviewer The final printed label for the wood treatment use will identify only one application method and the applicable PPE information]

[FOR USE FOR THE POUR OR INJECTION METHOD OF APPLICATION]

Applicators and other handlers must wear one of the following air purifying respirators

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

Do not permit entry into spill area or clean up area by unprotected persons until concentration of chloropicrin is determined to be less than **0 15 ppm**

[FOR USE FOR THE VIAL METHOD OF APPLICATION]

For handling activities in enclosed areas applicators and other handlers participating in filling the vials or otherwise exposed to non encapsulated product must wear

- a supplied air respirator with NIOSH approval number prefix TC 19C or
- a self contained breathing apparatus (SCBA) with NIOSH approval number TC 13F

For handling activities outdoors applicators and other handlers participating in filling the vials or otherwise exposed to non encapsulated product must wear one of the following air purifying respirators

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

Do not permit entry into spill area or clean up area by unprotected persons until concentration of chloropicrin is determined to be less than **0.15 ppm**

[FOR ALL METHODS OF APPLICATION]

USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

USER SAFETY RECOMMENDATIONS

Users should

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

ENVIRONMENTAL HAZARDS

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

Chloropicrin has certain properties and characteristics in common with chemicals that have been detected in groundwater (chloropicrin is highly soluble in water and has low adsorption to soil).

PHYSICAL OR CHEMICAL HAZARDS

ASHTA GOLD may be corrosive under certain conditions. **DO NOT USE WATER** to clean equipment. Flush equipment with nitrogen, compressed air, or solvent. Do not use handling equipment or containers made from magnesium, aluminum, or alkali metals. ASHTA GOLD is a nonflammable liquid.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

PRODUCT INFORMATION

FOR THE TREATMENT OF WOOD POLES, TIMBERS, PILINGS, AND GLUE LAMINATED BEAMS TO CONTROL INTERNAL DECAY

For remedial treatment of wooden poles/timbers

- 1 Plug the pre drilled holes immediately after applications
- 2 Do not treat structures/beams indoors
- 3 Do not drill an application hole through seasoning checks to apply product If the hole intersects a check plug the hole and drill another If more than 2 treatment holes intersect an internal void or rot pocket re drill the holes farther up the pole into relatively solid wood

Drill a minimum of four treatment holes of 3/4 diameter spaced evenly around the wood pole Make holes approximately at a 45° downward angle and deep enough to reach the center of the pole Make first hole near the groundline and each succeeding hole drilled 6 12 inches higher Distribute the total amount of fumigant equally among the holes Refer to TABLE 1 for the appropriate amount of fumigant Seal treatment holes by plugging with treated wood plugs

TABLE 1

DOSAGE RATE TABLE FOR WOOD POLES, TIMBERS, PILINGS, AND GLUE LAMINTED BEAMS

DIAMETER (Inches)	8	12	16	20	24	28	30	36	40
Fluid Ounces of Product	3	7	12	19	30	43	59	78	102

Protection For Handlers

[FOR USE FOR THE POUR OR INJECTION METHOD OF APPLICATION]

Respirator Fit Testing Medical Qualification and Training

Using a program that conforms to OSHA s requirements (see 29 CFR Part 1910 134) employers must verify that any handler who uses a respirator is

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

[FOR USE FOR THE VIAL METHOD OF APPLICATION]

The employer of any handler must confirm that at least one self contained breathing apparatus (SCBA) is at the application block during handler activities and is ready for use in case of an emergency

STORAGE AND DISPOSAL

Do not contaminate water food or feed by storage and disposal

PESTICIDE STORAGE Store in a dry well ventilated area under lock and key Post as a pesticide storage area Persons moving handling or opening containers must wear the personal protective equipment specified in the Hazards to Humans section of this labeling Open container only in a well ventilated area Do not permit entry into spill area or clean up area by unprotected persons until concentration of chloropicrin is determined to be less than **0.15 ppm**

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

PESTICIDE CONTAINER DISPOSAL Nonrefillable Container Do not reuse or refill this container Triple rinse (or equivalent) container promptly after emptying Triple rinse as follows Empty remaining contents into container for disposal and drain for 10 seconds after the flow begins to drip Fill the container ¼ full with water and recap Shake for 10 seconds Store rinsate for disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times Then offer for recycling if available or reconditioning or puncture and dispose of in a sanitary landfill or if allowed by state and local authorities by burning If burned stay out of smoke

SHIPPING This fumigant is classified in the U.S. Department of Transportation Hazardous Materials Regulations and must be shipped in accordance with DOT requirements Do not ship with foods feeds or clothing

WARRANTY DISCLAIMER

Seller warrants that this product complies with the specifications expressed in this label SELLER MAKES NO OTHER WARRANTIES AND DISCLAIMS ALL OTHER WARRANTIES EXPRESS OR IMPLIED INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE INTENDED PURPOSE To the extent permitted by applicable law Seller's liability for default breach or failure under this label shall be limited to the amount of the purchase price Seller shall have no liability for consequential damages