PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER. THIS FUMIGANT IS A HIGHLY HAZARDOUS MATERIAL AND MUST BE HANDLED WITH CARE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION WHO ARE TRAINED WITH ITS PROPER USE. CONSULT YOUR DEALER REPRESENTATIVE OR THE DISTRIBUTOR FOR CORRECT PROCEDURE BEFORE USING. READ AND FOLLOW ALL LABEL DIRECTIONS AND PRODUCT LITERATURE SPECIFIC TO YOUR REQUIREMENTS. POISONOUS LIQUID AND VAPOR. INHALATION 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 EXPOSURES AFTER IRRITATION IS EVIDENT, OR HIGHER CONCENTRATIONS, MAY CAUSE PAINFUL IRRITATION TO 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. CHLOROPICRIN FUMIGANT HAS THE CAPACITY TO CAUSE MARKED IRRITATION TO THE UPPER RESPIRATORY TRACT, AND IS A STRONG LACHRYMATOR (TEAR PRODUCING EYE IRRITANT). LOW CONCENTRATIONS, BELOW THOSE NECESSARY TO CAUSE SERIOUS SYSTEMIC INTOXICATION, ARE CAPABLE OF CAUSING SEVERELY PAINFUL EYE IRRITATION, HENCE WILL NOT BE VOLUNTARILY TOLERATED. HOWEVER, THE EFFECT MAY BE SO POWERFUL THAT A PERSON MAY BECOME TEMPORARILY BLINDED AND PANIC-STRICKEN AND THAT IN TURN MAY LEAD TO ACCIDENTS.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. For more options, follow the instructions for Category H on the chemical resistance category selection chart. PPE constructed of saranex, neoprene, and chlorinated polyethylene provide short-term contact or splash protection against liquid in this product. 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 offer no protection from this product and 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 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.

See label booklet for additional Precautionary Statements.

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.

Tri-Clor EC Fumigant

ACTIVE INGREDIENT:
Chloropicrin 94%
OTHER INGREDIENTS:..... 6%
TOTAL: 100%

This product weighs 13.46 lbs./gal. @ 68ºF (20ºC).
Contains 12.7 lbs. of chloropicrin per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER **PELIGRO**

POISON

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.)

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

FIRST AID

IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
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 ON SKIN OR CLOTHING:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

NOTE: Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO 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.

EMERGENCY PHONE NUMBER: Chemtrec, 1-800-424-9300

See side panels for additional precautionary statements.

DIRECTIONS FOR USE
Restricted Use Pesticide

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply 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. 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 OR DISPOSAL.

Pesticide Storage: Store in a dry, cool, well-ventilated area under lock and key. Post as a pesticide storage 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. When a cylinder is partially full, and there is no further requirement for the product, return the cylinder to the registrant or distributor. Replace safety cap and valve protection bonnet before shipping container.

Container Handling: Store cylinders upright, secured to a rack or wall to prevent tipping. Do not subject cylinders to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs or similar devices to unload cylinders. Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured. Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

Return of Containers: Cylinders are the property of the registrant or distributor and must be returned promptly after use. Do not ship cylinders without safety caps or valve protection bonnets.

Refillable Container: Only the registrant or distributor is allowed to refill this container. This container can be refilled 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.

Container Disposal: To clean the container before final disposal, remove any remaining liquid from the container, using dry air pressure if necessary. Allow container to aerate for at least 5 days. After aeration, wash container using hot water; then offer container to qualified reconditioner or dispose of as directed by State or local regulations.

See label booklet for complete Directions for Use.

Distributed By:

Trical, Inc.

P. O. Box 1327 • Hollister, CA • 95024-1327

EPA Reg. No. 58266-5-11220
EPA Est. 11220-CA-4

Date of Labeling: October 11, 2012

NET CONTENTS.....LBS.

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WARRANTY

Seller warrants that this product conforms to the chemical description on its label and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use. To the extent consistent with applicable law, neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product in a manner contrary to its label.

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Distributed By:

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8770 Highway 25 • P. O. Box 1327
Hollister, CA 95023

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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 immediately if pesticide gets on clothing. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Supply your physician with information on Chloropicrin, which is available from your Dealer Representative or the Distributor.

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

Do not use containers or application equipment made of magnesium, aluminum, or their alloys, as under certain conditions this fumigant may be severely corrosive to such metals. [See the *System Controls and Integrity* section of this labeling for further requirements for application equipment.] Do not permit water to be used to clean the fumigant pressure system, as corrosion will result. Diesel oil is satisfactory for this purpose.

DIRECTIONS FOR USE

Restricted Use Pesticide

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

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS). ***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 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.
- Apply this product only through drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

Product Information

TRI-CLOR EC is a fumigant for the control of soil-borne pests, such as wireworms and nematodes, and diseases cause by certain species of *Pythium, Phytophthora, Fusarium,* and *Verticillium*. It is to be used in soil to be planted to fruit, nut, vegetable, field, floral, forestry and nursery crops. This product may be applied under permanent plastic mulch or in open beds. If applied to open beds (untarped) the drip tape must be buried at minimum 5 inches.

Use Precautions

- This fumigant is a highly hazardous material and must be handled with care only by certified applicators or persons under their direct supervision who are trained with its proper use.
- Comply with all local regulations and ordinances. Obtain an application permit from Agricultural Regulatory Agencies as required.
- Obtain medical assistance at once in case of illness after exposure, and do not allow conditions which could accidently cause further exposure until recovery is complete.
- Never fumigate alone. It is imperative to always have an assistant and proper protection equipment, to aid in case of an accident.
- Drivers of application equipment must advise other workers of all precautions and procedures. In addition, drivers must instruct their helpers in the mechanical operation of the tractor and how to work with the tractor driver while fumigating.
- Handle this fumigant in the open, when possible, with the operator "upwind" from the container where there is good ventilation.
- 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.
- Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid, or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil tests made after fumigation. To avoid ammonia injury and/or nitrate starvation to crops, avoid using fertilizers containing ammonia salts and use only fertilizers containing nitrates until after the crop is well established and the soil temperature is about 65º F. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

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/fumiganttraining 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.

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 water-run applications (e.g., drip), a certified applicator must be in the line of sight of the application at the start of the application, including set-up, calibration, and initiation of the application.
- A certified applicator may leave but must return at least every two hours to visually inspect the equipment to ensure proper functioning, and must directly supervise all WPS-trained handlers until the application is complete. WPS-trained handlers may perform these monitoring functions in place of a certified applicator but they must be under the supervision of a certified applicator and be able to communicate with a certified applicator at all times during monitoring activities via cell phone or other means.
- The certified applicator or WPS trained handlers under the supervision of and in communication with the certified applicator shall shut the system down and make necessary adjustments should the need arise.
- 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 www.epa.gov/fumiganttraining.

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 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 the 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 the 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 (see *Early Tarp Perforation during Flood Prevention Activities for Bedded Applications Only* requirements).
- If tarps are perforated within 14 days after the application is complete, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps are perforated but not removed within 14 days after the application is complete, planting or transplanting must not begin until at least 48 hours after the tarp perforation is complete.
- If tarps are not perforated or removed within 14 days after the application is complete, planting or transplanting may take place while the tarps are being perforated.
- 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.
- 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.
- 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,
- ☐ "TRI-CLOR EC FUMIGANT", 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.

Tarps (when tarps are used in TRI-CLOR EC FUMIGANT 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.
- If tarps are used, they must be put in place before the application starts.
- Tarp edges must be buried along the furrow and at the ends of rows.

Application Depth:

- *For Untarped Applications:* The drip tape must be buried at a minimum of 5 inches.

Weather Conditions

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

Identifying Unfavorable Weather Conditions

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

Soil 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.
- Till fields with known plowpans because they can lead to puddling of the fumigant due to inadequate soil drainage.
- 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.
- Beds should be listed, shaped and ready for planting.

Soil Moisture:

- For all soil types, pre-application moisture should be dry enough to prevent soil saturation and bed collapse once application and flushing are complete.
- Soil moisture should be at 50% of field capacity in the top 2-3" at the time of TRI-CLOR EC FUMIGANT application.

Product and Dosage:

- Plan the application by calculating the amount of fumigant required at the appropriate rate for the crop, acreage, and target pest. The fumigant must be metered into the water supply line and then passed through a mixing device, such as a centrifugal pump or static mixer, to assure proper agitation.
- TRI-CLOR EC must be applied through a drip irrigation system to wet the soil thoroughly in the area being treated. Drip emitters should be spaced 8-12 inches apart.
- Meter TRI-CLOR EC into the drip system according to the dosage. An adequate concentration of TRI-CLOR EC must be present in order to be effective. At no time should the concentration of TRI-CLOR EC exceed 1,500 ppm by weight in the drip line. For example, a 300 pound per treated acre application rate would require 24,000 gallons of water per treated acre to deliver 1,500 ppm.

System Controls and Integrity:

- The irrigation system (main lines, headers, drip tape) must be thoroughly checked for leaks before the start of application. Leak detection requires that the irrigation system be at full operating pressure. The amount of time needed at full operating pressure will vary by irrigation system design. Look for puddling along major pipes (holes in pipes or leaky joints), at the top and ends of rows (leaky connection, open drip tape), and on the bed surface (damaged drip tape, malfunctioning emitters). Any leaks discovered during the pre-application check must be repaired prior to the start of the application.
- To inject fumigant, use a metering system (such as a positive pressure system, positive displacement injection pump, diaphragm pump, or a Venturi system) effectively designed and constructed of materials that are compatible with the fumigant and capable of being fitted with system interlocking controls. Do not use containers, pumps, or other equipment made of aluminum, magnesium or their alloys as chloropicrin can be corrosive to such metals.
- The system must contain:
  - o A functional check valve, a vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination and backflow;
  - o A functional, automatic, quick-closing check valve to prevent the flow of fluids back toward the fumigant container;
  - o A functional, normally closed solenoid-operated valve located on the intake side of the injection point and connected to the system interlock to prevent the fumigant from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down; and
  - o Functional interlocking controls to automatically shut off the fumigant injection when the irrigation water flow stops or decreases to the point where fumigant distribution is adversely affected.
- Crop injury and/or lack of effectiveness can result from non-uniform distribution of treated water.
- If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Site of Injection and Irrigation System Layout:
Site of injection must be as close as practical to the area being treated (such as direct injection of fumigant into the header pipe/manifold or into an aboveground delivery pipe attached to the header). If the fumigant is injected into a main line, make sure the irrigation pipe is able to be cleared of all fumigant as the fumigant may pool in low sections of the pipe. Also make sure that valves on lateral lines of the main line are closed if these lateral lines lead to areas not being fumigated at the time of the application.

System Flush:
After application of the fumigant, continue to drip-irrigate the area with water to flush the irrigation system. Do not allow the fumigant to remain in the irrigation system after the application is complete. The total volume of water, including the amount used for flushing the irrigation system, must be adequate to completely remove the fumigant from the lines, but should be less than the amount that could over-saturate the beds (bed collapse can occur from over-saturation) and should not exceed 1.5 acre-inches (40,000 gallons) of water per acre. If common lines are used for both the fumigant application and water seal (if a water seal is applied) these lines must be adequately flushed before starting the water seal and/or normal irrigation practices.

Planting Interval:
Do not disturb treated soil for 2 weeks. Wet soil retards diffusion of the fumigant thus requiring a longer aeration period. Aeration is usually complete when the odor of the fumigant is no longer evident.

Requirements for Pre-Plant Drip Irrigation Soil Fumigation in a Greenhouse

- The maximum application block size that can be treated is 50,000 square feet.
- All applications must be tarped.
- During the application keep all doors, vents, and windows to the outside open, and keep all fans or mechanical ventilation systems running within the greenhouse.
- Leaks through which gases could enter adjacent enclosed areas must be sealed.

Maximum Application Rate for Pre-Plant Soil Uses

- 320 pounds TRI-CLOR EC FUMIGANT per treated acre

Calculating the Broadcast Equivalent Application Rate

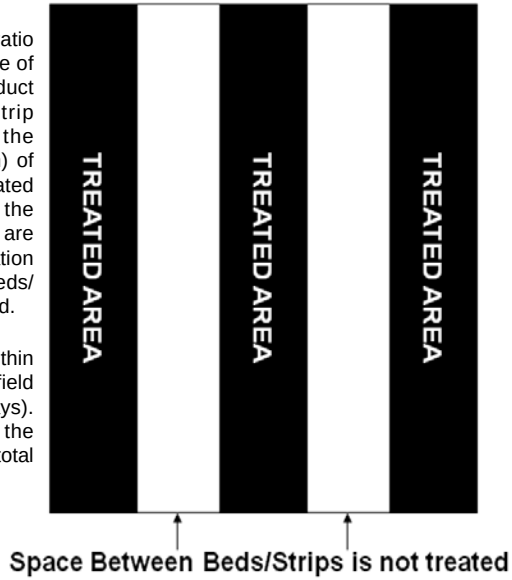
To calculate the broadcast equivalent rate for bedded or strip applications the following information is needed:

- 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)

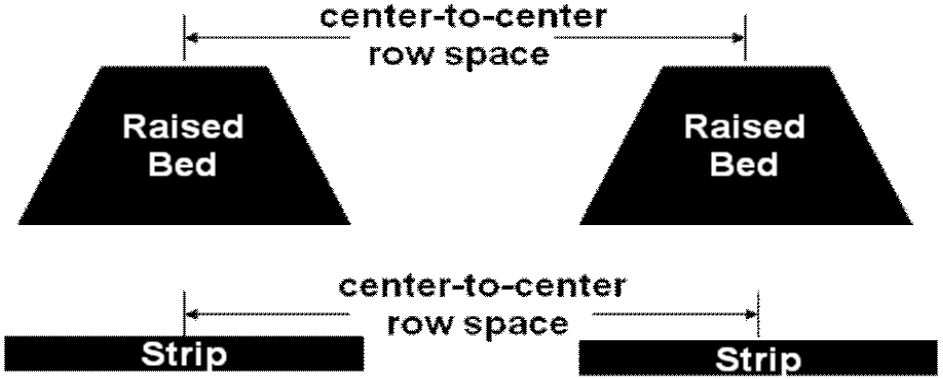


The "broadcast equivalent rate" must be calculated with the following formula:

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

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

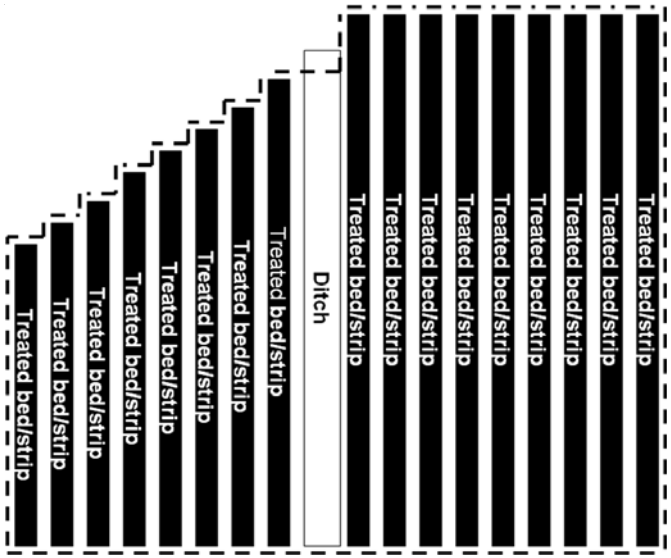
Figure 2. Center Row Spacing



Sample broadcast equivalent rate calculation

Assumptions:

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



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

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

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

NOTE: For certain types of application methods such as nontarped, buried drip applications for melons the beds are significantly wider (approximately 80 to 84 inches) than the treated root zone area. In this case the calculations above would be modified so the strip or bed width (inches) is replaced with the treated bed area (inches).

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*).
  - o 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,
     1) The buffer zone period has ended, and
     2) 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).

- For all other applications Tables 1 to 3 must be used to determine the minimum buffer distances as appropriate for the method of application. 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 Credits

The buffer zone distances for TRI-CLOR EC FUMIGANT 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.
- 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 or less. Record temperature measurements at the application depth or 12 inches, whichever is shallower.
- 10% reduction in the buffer zone distance, IF the clay content of the soil in the application block is greater than 27%.

Examples of Buffer Zone Calculations with Credits Applied

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

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

Posting Fumigant Buffer Zones

- Posting of a **buffer zone** is required unless there is a physical barrier that prevents bystander access to the buffer zone.
- Buffer Zone signs must be placed along or outside the perimeter of the buffer zone, at all usual points of entry and along likely routes of approach from areas where people not under the owner's control may approach the buffer zone.
  - o Some examples of points of entry include, but are not limited to, roadways, sidewalks, paths, and bike trails.
  - o 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.
  - o 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:
  - o The printed side of the sign must face away from the application block toward areas from which people could approach.
  - o 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).
  - o 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.
  - o Signs must be removed within 3 days after the end of the buffer zone period.
  - o 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
  - o The Buffer Zone signs must contain the following information:
    - ☐ The 'Do Not Walk' symbol
    - ☐ DO NOT ENTER/NO ENTRE,
    - ☐ TRI-CLOR EC FUMIGANT (Chloropicrin) 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 the signs must be removed within 3-days after the buffer zone period for the last block has expired.

Table 1. Drip Tarp Buffer Zone Distances in Feet

Broadcast Equivalent Application Rate (lbs Product/Acre)	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
64	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	35	40
70	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	40	50	50	55	55	60
75	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	45	60	60	60	65	65
80	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	45	60	60	65	70	75
86	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	38	45	53	60	60	65	70	75
91	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	40	50	60	60	60	65	70	70	75
96	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	40	60	60	60	60	81	88	90	97
102	30	30	30	30	30	30	30	30	30	30	30	32	34	36	38	40	60	60	64	68	97	105	110	118
107	30	30	30	30	30	30	30	30	30	30	30	32	34	36	38	40	60	60	68	77	114	123	130	140
112	30	30	30	30	30	30	30	30	30	30	30	32	34	36	38	40	60	60	73	85	130	141	150	162
118	30	30	30	30	30	30	30	30	30	30	30	35	39	44	49	53	77	93	108	122	146	158	170	183
123	30	30	30	30	30	30	30	30	30	30	39	48	56	65	67	68	103	120	134	148	162	176	190	205
128	30	30	30	30	30	30	30	30	30	30	45	60	68	75	80	85	140	140	153	165	193	209	226	243
133	30	30	30	30	30	30	30	30	30	30	48	65	73	82	93	103	147	160	177	193	224	243	261	281
139	30	30	30	30	30	30	30	30	30	30	50	70	79	88	105	122	153	180	201	222	255	276	297	319
144	30	30	30	30	30	30	30	30	30	30	53	75	85	95	118	140	160	200	225	250	287	310	333	356
149	30	30	30	30	30	33	36	39	42	45	69	93	105	122	145	167	192	230	257	283	318	343	369	394
155	30	30	30	30	30	36	42	48	54	60	86	112	125	148	173	193	223	260	288	317	349	377	404	432
160	30	30	30	30	30	39	48	57	66	75	110	130	145	175	200	220	255	290	320	350	380	410	440	470
165	30	30	30	30	30	40	50	59	68	78	114	134	150	181	207	227	264	300	331	362	393	424	455	486
171	30	30	30	30	30	42	51	61	70	80	117	139	155	187	213	235	272	309	341	373	405	437	469	501
176	30	30	30	30	30	43	53	63	73	83	121	143	160	193	220	242	281	319	352	385	418	451	484	517
181	30	30	30	30	30	44	54	65	75	85	125	147	164	198	227	249	289	329	363	397	431	465	499	533
187	30	30	30	30	35	46	56	67	77	88	128	152	169	204	233	257	298	338	373	408	443	478	513	548
192	30	30	30	30	35	47	58	68	79	90	132	156	174	210	240	264	306	348	384	420	456	492	528	564
197	30	30	30	30	35	48	59	70	81	93	136	160	179	216	247	271	315	358	395	432	469	506	543	580
203	30	30	30	30	35	49	61	72	84	95	139	165	184	222	253	279	323	367	405	443	481	519	557	595
208	30	30	30	30	35	51	62	74	86	98	143	169	189	228	260	286	332	377	416	455	494	533	572	611
213	30	30	30	35	40	52	64	76	88	100	147	173	193	233	267	293	340	387	427	467	507	547	587	627
219	30	30	30	35	40	53	66	78	90	103	150	178	198	239	273	301	349	396	437	478	519	560	601	642
224	30	30	30	35	40	55	67	80	92	105	154	182	203	245	280	308	357	406	448	490	532	574	616	658
229	30	30	30	40	40	56	69	82	95	108	158	186	208	251	287	315	366	416	459	502	545	588	631	674
235	30	30	30	40	40	57	70	84	97	110	161	191	213	257	293	323	374	425	469	513	557	601	645	689
240	30	30	30	40	45	59	72	85	99	113	165	195	218	263	300	330	383	435	480	525	570	615	660	705

Table 2. Drip Buried Untarp Buffer Zone Distances in Feet

Broadcast Equivalent Application Rate (lbs Product/Acre)	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
22	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	44	61	77	88
27	30	30	30	30	30	30	30	30	30	30	30	30	30	30	47	66	84	102	120	138	165	193	220	242
32	30	30	30	30	30	30	30	30	30	30	30	30	30	30	66	105	140	176	212	248	286	325	363	396
38	30	30	30	30	30	30	30	30	30	30	61	94	124	154	187	220	275	330	358	385	429	473	517	556
43	30	30	30	30	30	32	36	41	45	50	103	157	187	217	250	283	358	432	473	514	564	613	663	707
48	30	30	30	30	30	36	45	54	63	72	146	220	250	281	314	347	440	534	589	644	699	754	809	858
54	30	30	30	30	30	52	76	100	124	149	206	264	314	363	410	457	531	605	657	710	765	820	875	924
59	30	32	37	42	47	72	97	123	148	173	238	303	359	415	459	503	589	674	734	795	850	905	960	1009
64	30	37	47	56	66	92	119	145	172	198	270	341	404	468	509	550	646	743	811	880	935	990	1045	1095
70	30	44	61	77	94	121	149	176	204	231	314	396	454	512	561	611	715	820	875	930	990	1051	1111	1166
75	30	50	72	94	116	145	174	203	232	261	353	446	510	575	627	679	787	894	968	1042	1119	1196	1273	1345
80	30	55	83	110	138	168	199	230	261	292	393	495	567	638	693	748	858	968	1062	1155	1249	1342	1436	1524
86	33	59	88	117	147	180	212	245	278	311	419	528	604	681	739	798	915	1033	1132	1232	1332	1431	1531	1625
91	33	62	94	125	156	191	226	261	295	330	446	561	642	723	785	848	972	1097	1203	1309	1415	1521	1627	1727
96	33	66	99	132	165	202	239	276	313	350	472	594	680	766	832	898	1030	1162	1274	1386	1498	1610	1723	1828
102	39	70	105	139	174	213	252	291	330	369	498	627	718	808	878	947	1087	1226	1345	1463	1581	1700	1818	1930
107	39	73	110	147	183	224	265	307	348	389	524	660	755	851	924	997	1144	1291	1415	1540	1665	1789	1914	2031

Table 3. Drip Tarp Greenhouse Buffer Zone Distances in Feet

Application Block Size (square feet)	Buffer Zone (feet)
≤ 25,000	25
> 25,000 and ≤ 30,000	50
> 30,000 and ≤ 35,000	75
> 35,000 and ≤ 40,000	100
> 40,000 and ≤ 45,000	115
> 45,000 and up to 50,000	130

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.

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

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:

- o The location of the application block.
- o Fumigant(s) applied including the active ingredient, name of the fumigant product(s), and the EPA Registration number.
- o Contact information for the applicator and property owner.
- o Time period in which the application is planned to take place (must not range more than 4 weeks).
- o 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).
- o 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:
  - o there is an incident,
  - o sensory irritation is experienced outside of the buffer zone, and/or
  - o 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
  - o Name,
  - o Phone number,
  - o Pesticide applicator license and/or certificate number,
  - o Specify if commercial or private applicator,
  - o Employer name,
  - o Employer address, and
  - o Date and location of completing EPA approved soil fumigant training program.
- General site information
  - o Application block location (e.g., county, township-range-section quadrant), address, or global positioning system (GPS) coordinates
  - o Name, address, and phone number of application block owner
  - o Map, aerial photo, or detailed sketch showing:
    - application block location
    - application block dimensions
    - buffer zone dimensions
    - property lines
    - roadways
    - rights-of-ways
    - sidewalks
    - permanent walking paths
    - bus stops
    - nearby application blocks
    - surrounding structures (occupied and non-occupied)
    - locations of Buffer Zone signs, and
    - locations of difficult to evacuate sites with distances from the application block labeled.
- General application information
  - o Target application date/window,
  - o Fumigant Product Name, and
  - o EPA registration number.
- Tarp Plan (if tarp is used)
  - o Schedule for checking tarps for damage, tears, and other problems,
  - o Minimum size of damage that will be repaired,
  - o Factors used to determine when tarp repair will be conducted,
  - o Equipment/methods used to perforate tarps,
  - o Target dates for perforating tarps, and
  - o Target dates for removing tarps.
- Soil conditions
  - o Description of soil texture and moisture in application block, and
  - o Method used to determine soil moisture
- Buffer zones
  - o Application method,
  - o Injection depth,
  - o Application rate from lookup table on label,
  - o Application block size from lookup table on label,
  - o Credits applied and measurements taken (if applicable),

- Tarp brand name, lot number, thickness, manufacturer, batch number, and part number
- Potassium thiosulfate
- Water seal
- Organic matter content
- Clay content
- Soil temperature

o Buffer zone distance, and

o 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

o Person(s) who will post and remove (if different) Fumigant Treated Area and Buffer Zone signs, and

o Location of Buffer Zone signs.

■ Emergency Preparedness and Response Measures (if applicable)

o Fumigant site monitoring (if applicable):

- When and where it will be conducted

o Response information for neighbors (if applicable):

- List of residences and businesses informed,
- Name and phone number of person providing information, and
- Method of providing the information.

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

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

o Name and phone number of persons contacted by the certified applicator, and

o Date contacted.

■ Handler (including Certified Applicators) Information and PPE

o Names, addresses and phone numbers of handlers

o Names, addresses, and phone numbers for employers of handlers

o Tasks that each handler is authorized and trained to perform

o Date of PPE training for each handler

o Applicable handler PPE including:

- Long-sleeved shirts/long pants, shoes, socks
- Chemical-resistant apron
- Chemical-resistant footwear
- Protective eyewear (not goggles)
- Chemical-resistant gloves
- Air-purifying respirators
  - Respirator make, model, type, style, size, and cartridge/canister type
- SCBAs
  - Respirator make, model, type, style, size
- Other PPE

o For handlers: Confirmation of receipt of Fumigant Safe Handling Information.

o 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/fumiganttraining for the active ingredient(s) in this product.

o 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.

o 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

o If sensory irritation is experienced, indicate whether operations will cease or operations will continue with use of an air-purifying respirator

o 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)

o Identify (e.g., list, attach applicable label section) applicable mandatory GAPs.

■ Pesticide Product Labels and Material Safety Data Sheets (MSDS)

o 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

o 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).

o 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):

o Date of tarp damage discovery,

o Location and size of tarp damage,

o Description of tarp/tarp seal/tarp equipment failure, and

o Date and time of tarp repair completion.

■ Tarp perforation/removal details (if applicable):

o Date and time tarps were perforated,

o Date and time tarps were removed, and

o Record if tarps were perforated and/or removed early. Describe the conditions that caused early tarp perforation and/or removal.

■ Complaint details (if applicable):

o Person filing complaint (e.g., on-site handler, person off-site),

o If off-site person, name, address, and phone number of person filing complaint, and

o 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:

o When sensory irritation was experienced:

- Date, time, location, and handler task/activity where irritation was observed and
- Resulting action (e.g., implement emergency response plan, cease operations, continue operations with air-purifying respirators).

o When using a direct read detection device:

- Sample date(s), time(s), location(s), and concentration(s),
- Handler task/activity monitored (if applicable), and
- Resulting action (e.g., cease operations, continue operations with air-purifying respirators).

■ Drip application monitoring

o Record monitoring date(s) and time(s)

o Name of person(s) monitoring

o Record observations:

- Is the equipment functioning properly,
- Description of corrective action (if applicable), and
- Other comments.

■ Fumigant Treated Area and Buffer Zone Signs:

o Dates of posting and removal.

■ Any deviations from the FMP (e.g., changes in emergency response actions, changes in handler information, changes in handlers responsible for completing emergency tasks, changes in communication between certified applicator, owner, and other handlers).

Record-Keeping Procedures

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

Spill and Leak Procedures

Evacuate everyone from the immediate area of the spill or leak. For entry into affected area to correct problems, wear the personal protective equipment specified in the *Personal Protective Equipment (PPE)* section of this labeling. 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. Dispose of contaminated material 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 0.15 ppm or less.