PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER. Hazardous liquid and vapor. May cause lung, liver, and kidney damage and respiratory system irritation upon prolonged contact. The use of this product may be hazardous to your health. This product contains 1,3-dichloropropene, which has been determined to cause tumors in laboratory animals. Risks can be reduced by exactly following directions for use, precautionary statements, and by wearing the personal protective equipment specified in this labeling. Fatal if inhaled or swallowed. Poisonous liquid and vapor. Corrosive. Liquid causes skin burns and irreversible eye damage. Do not breathe vapor or gas. Do not get in eyes, on skin or on clothing. Chloropicrin is readily identifiable by smell. Exposures to very low concentrations of vapor will cause irritation of eyes, nose and throat. Continued exposure after irritation occurs, or exposure to higher concentration may cause painful irritation or temporary blindness.

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. Where coveralls are required, they must be loose-fitting and constructed of woven fabrics (e.g., tight knit cotton or cotton/polyester), non-woven fabrics (e.g., tyvek or sontara), or fabrics containing microporous Teflon.

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.

The PPE required when handling liquid fumigant must be immediately available and must be worn if the handler is to perform any handling activity with a potential for liquid fumigant contact.

1. All handlers (including applicators) must wear a half-face air-purifying respirator (except when handlers are in enclosed cabs or applying the fumigant with equipment that disrupts the chisel trace and seals the soil at the same time, e.g., Yetter applicator) equipped with an organic-vapor (OV, NIOSH approval number prefix TC-23C) cartridge and a particulate pre-filter (Type N, R, P or HE, NIOSH approval number prefix TC-84A).

If sensory irritation (tearing, burning of the eyes or nose) is experienced and handlers remain in the application block or buffer zone, handlers must wear at a 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).

See Directions for Use, Air Monitoring Requirements, Respiratory Protection and Stop Work Triggers, number 1, *Handlers Wearing Half-Face Air-Purifying Respirators* for when an air-purifying respirator (full facepiece or gas mask) is required.

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, including PPE requirements.]

RESTRICTED USE PESTICIDE

DUE TO ACUTE TOXICITY AND CARCINOGENICITY

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-Form 40/60

A multi-purpose liquid fumigant for preplant treatment of soil to control plant parasitic nematodes and to help manage certain soil-borne diseases and symphlyans in cropland.

Not for use in greenhouses or other enclosed areas and not for use in drip or other chemigation applications.

ACTIVE INGREDIENTS:

1,3-Dichloropropene	39.0%
Chloropicrin	59.6%
OTHER INGREDIENTS:	1.4%
TOTAL:	100.0%

This product weighs 12.1 lbs./gal. @ 68ºF (20°C).

Contains 4.7 pounds of 1,3-Dichloropropene and 7.2 pounds 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, and then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further 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.
IF IN EYES:	• Hold eyes open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after 5 minutes, and 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. For additional information in case of an emergency, call toll free (1-800-424-9300.)

NOTE TO PHYSICIAN

Because rapid absorption may occur through lungs if product is aspirated and cause systemic effects, the decision to induce vomiting or not should be made by a physician. Probable mucosal damage may contraindicate the use of gastric lavage. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. 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.

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 cool, dry, well-ventilated area under lock and key. Post as a pesticide storage area.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide and rinsates 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. Because 1,3-dichloropropene is corrosive under certain conditions, flush all application equipment with fuel oil, kerosene or a similar type of petroleum solvent immediately after use. Fill pumps and meters with new motor oil or a 50% motor oil/fuel oil mixture before storing. Do not use water. Dispose of rinsate by applicable Federal, State and local regulations. Never introduce rinsate or unused product into surface or underground water supplies.

Container Handling: Persons moving, handling, or opening containers must wear the personal protective equipment specified in the *Personal Protective Equipment (PPE)* section of this labeling. Open container only in a well-ventilated area. Remove the valve protection bonnet and safety cap only when 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. Do not subject cylinders to rough handling, or to abnormal mechanical shock such as dropping, bumping, dragging, or sliding. Do not use ropes, slings, hooks, tongs, and similar handling devices for unloading cylinders. To transport heavier cylinders, use a hand truck, fork truck, or similar device to which cylinders can be firmly secured.

Refillable Container: Only the registrant is authorized to refill cylinders. 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 of Containers: Cylinders are the property of the manufacturer or distributor and must be returned promptly by collect freight. Do not ship cylinders without safety caps or valve protection bonnets.

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.]

Trical, Inc.

8770 Highway 25 • P. O. Box 1327 • Hollister, CA • 95024-1327

EPA Est. 11220-CA-4 **EPA Reg. No. 11220-15**

NET CONTENTS _____ **LBS.** October 15, 2012

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WARRANTY DISCLAIMER

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. **Inherent Risks of Use:** It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.) abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer. **Limitation of Remedies:** To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at the company's election, one of the following: (1) Refund of purchase price paid by buyer or user for product bought, or (2) Replacement of amount of product used. To the extent consistent with applicable law, the company shall not be liable for losses or damages resulting from handling or use of this product unless the company is promptly notified of such loss or damage in writing. To the extent consistent with applicable law, the company shall not be liable for consequential or incidental damages or losses. The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of the company or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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Trical, Inc.
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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. Where coveralls are required, they must be loose-fitting and constructed of woven fabrics (e.g., tight knit cotton or cotton/polyester), non-woven fabrics (e.g., tyvek or sontara), or fabrics containing microporous Teflon.

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.

The PPE required when handling liquid fumigant must be immediately available and must be worn if the handler is to perform any handling activity with a potential for liquid fumigant contact.

1. All handlers (including applicators) must wear a half-face air-purifying respirator (except when handlers are in enclosed cabs or applying the fumigant with equipment that disrupts the chisel trace and seals the soil at the same time, e.g., Yetter applicator) equipped with an organic-vapor (OV, NIOSH approval number prefix TC-23C) cartridge and a particulate pre-filter (Type N, R, P or HE, NIOSH approval number prefix TC-84A).

If sensory irritation (tearing, burning of the eyes or nose) is experienced and handlers remain in the application block or buffer zone, handlers must wear at a 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).

See Directions for Use, Air Monitoring Requirements, Respiratory Protection and Stop Work Triggers, number 1, *Handlers Wearing Half-Face Air-Purifying Respirators* for when an air-purifying respirator (full facepiece or gas mask) is required.

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.

2. Handlers using enclosed cabs are not required to wear respiratory protection (**not applicable in California**) provided that the cab has been maintained according to the manufacturer's written operating instructions **and** there is written documentation that the ventilation system has been maintained according to the manufacturer's instructions **and** the enclosed cab is in conformance with the following requirements:

- The enclosed cab must maintain a positive pressure of 6 mm H_2O.
- The enclosed cab must have a minimum air intake flow of 43 m^3/hour.
- The enclosed cab must be equipped with activated charcoal filter media containing no less than 1000 grams of activated charcoal.
- The filter must be changed after no more than 50 hours of application time.

See Directions for Use, Air Monitoring Requirements, Respiratory Protection and Stop Work Triggers, number 2*, Handlers in Enclosed Cabs (Not Applicable in California)* for stop work procedures.

3. Handlers applying the fumigant with equipment that disrupts the chisel trace and seals the soil with one implement, e.g., Yetter applicator (**not applicable in California**) are not required to wear respiratory protection unless sensory irritation is experienced.

If sensory irritation (tearing, burning of the eyes or nose) is experienced and handlers remain in the application block or buffer zone, handlers must wear at a 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).

See Directions for Use, Air Monitoring Requirements, Respiratory Protection and Stop Work Triggers, number 3, *Handlers Applying the Fumigant with Equipment That Disrupts the Chisel Trace and Seals the Soil with One Implement, e.g., a Yetter applicator (**not applicable in California**)* for when respiratory protection is required.

4. Handlers exposed to greater than 1.5 ppm of chloropicrin, (e.g., in an emergency when corrective action is needed to reduce air concentrations to acceptable levels), and handlers exposed to this product in poorly ventilated areas, must wear at a minimum:

- Chemical-resistant suit
- Chemical-resistant gloves such as barrier laminate (EVAL) or viton
- Chemical-resistant footwear with socks
- Chemical-resistant headgear
- A self-contained breathing apparatus (SCBA) with NIOSH approval number prefix TC-13F. See further respirator requirements in the *Protection for Handlers* section on this label.

USER SAFETY REQUIREMENTS

1. Never Fumigate Alone: It is imperative to always have an assistant and proper protective equipment in case of accidents.
2. Drivers' Responsibilities: 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 safely work with the tractor and driver while fumigating.
3. Dispose of Contaminated Clothing: Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.
4. Clean and Maintain PPE: 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.
5. Contact With Mouth: Never siphon this product by mouth or use mouth to blow out clogged lines, nozzles, etc.
6. Heat Illness Avoidance: Use measures to avoid or minimize heat illness while using this product. These measures include gradual adjustment to heat and respirator stress, fans for cooling, cooling vests, frequent breaks to cool down, frequent intake of drinking water, and maintaining weight from day to day.

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.

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.
- **Groundwater Advisory:** 1,3-dichloropropene is known to move through soil and under certain conditions has the potential to reach groundwater as a result of agricultural use. Application in areas where soils are permeable and groundwater is near the surface could result in groundwater contamination.

PHYSICAL OR CHEMICAL HAZARDS

- Combustible. Do not use or store near heat or open flame.
- Do not mix or allow coming in contact with oxidizing agent. A chemical reaction hazard may occur.
- Handle carefully! Do not drop or let container be impacted by heavy objects. An explosion hazard may occur.

DIRECTIONS FOR USE
Restricted Use Pesticide

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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.

READ ALL DIRECTIONS FOR USE CAREFULLY BEFORE APPLYING. READ THE ENTIRE LABEL. USE ONLY ACCORDING TO LABEL DIRECTIONS. BEFORE BUYING OR USING THIS PRODUCT, READ "WARRANTY DISCLAIMER" AND "LIMITATION OF REMEDIES".

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.
- Do not formulate and/or tank mix this product into other end-use agricultural products.
- Soil fumigation using TRI-FORM 40/60 must be conducted only according to directions and conditions of use.
- Chemigation: Do not apply TRI-FORM 40/60 through any type of irrigation system.
- Not for use in greenhouses or other enclosed areas.
- An application block treated with TRI-FORM 40/60 must not be within 100 feet of an occupied structure. No person shall be present at this structure at any time during the seven consecutive day period after the application is complete. EXCEPTION: This restriction does not apply to use on soils that have not experienced a 1,3-Dichloropropene treatment in the previous two years, for example, on soils to be planted with fruit trees, nut and nursery crops, perennial vines, hops, mint or pineapple.
- TRI-FORM 40/60 shall not be applied to soil more frequently than once each year.
- Do not apply within 100 feet of any well used for potable water. Do not apply this product within 100 feet from the edge of karst topographical features. Karst topography is identified from landscape features that result from the dissolving activity of water in carbonate rock formations (limestone, dolomite and marble). Surface features that are associated with karst topography include sinkholes, caverns, springs, and sinking or disappearing streams. In North Dakota, South Dakota, Wisconsin, Minnesota, New York, Maine, New Hampshire, Vermont, Massachusetts, Utah, and Montana: Where groundwater aquifers exist at a depth of 50 feet or less from the surface, do not apply this product where soils are Hydrologic Group A.
- **Use Restrictions for Certain Florida Counties:** Additional use restrictions listed below apply to the following Florida counties: Brevard, Broward, Charlotte, Citrus, Collier, Dade, DeSoto, Glades, Hardee, Hendry, Hernando, Highlands, Hillsborough, Indian River, Lake, Lee, Manatee, Martin, Monroe, Okeechobee, Orange, Osceola, Palm Beach, Pasco, Pinellas, Polk, Sarasota, Seminole, St. Lucie, Sumter, and Volusia. For all other Florida counties, follow the label affixed to the product container for TRI-FORM 40/60.
  - Use TRI-FORM 40/60 only on soils that have a relatively shallow hard pan or soil layer restrictive to downward water movement (such as spodic horizon) within six feet of the ground surface and are capable of supporting seepage irrigation regardless of irrigation method employed.
  - Use standard chisel injection equipment to inject TRI-FORM 40/60 as deep as possible without placing the fumigant directly into the shallow subsurface irrigation water.
  - TRI-FORM 40/60 may not be applied within 100 feet of drinking water wells.

Product Information

This product is a multi-purpose liquid fumigant for preplant treatment of soil to control nematodes, symphylans, wireworms and certain soil borne diseases in cropland. This product, a soil fungicide and nematicide, may be applied as a preplant soil treatment to control or to aid in reducing the damaging effects of certain soil borne diseases, such as potato scab (caused by *Streptomyces scabies*), soil rot (soil pox) of sweet potatoes, Granville (bacterial) wilt, black root rot and black shank diseases of tobacco, *Verticillium* wilt of mint, pink root of onions, and pod rot of peanuts. This product also controls plant parasitic nematodes, such as root-knot, root lesion, citrus, cyst formers (golden, sugar beet, soybean), burrowing, lance, reniform, ring, spiral, sting, pin, stubby root, stylet, dagger and certain others, as well as symphylans (garden centipedes) and wireworms. Before fumigation, soil sampling for the type and number of pests present is recommended. In fields where pre-treatment soil samples indicate the presence of high population levels of nematodes, a successful fumigation cannot be expected to eradicate entire populations. Therefore, post-treatment sampling is recommended to determine the need for additional pest management practices. Consult State Agricultural Experiment Station or Extension Service specialists for information on other practices such as post-harvest destruction of crop residues, weed control or other cultural practices, and use of nematode resistant crop varieties that may aid in reducing crop losses from soil borne pests.

Use Precautions

Recontamination Prevention

TRI-FORM 40/60 will help manage certain soil borne pests that are present in the soil treatment zone at time of fumigation. It will not control pests that are introduced into soil after fumigation. To avoid reinfestation of treated soil do not use irrigation water, transplants, seed pieces, or equipment that could carry soil borne pests from infested land. Avoid contamination from moving infested soil onto treated beds through cultivation, movement of soil from below the treated zone, dumping contaminated soil in treated fields and soil contamination from equipment or crop remains. Clean equipment carefully before entering treated fields. Cultural practices, which provide post-harvest destruction of crop residues and weeds prior to fumigation and practices which prevent weed infestation following fumigation and prior to planting, will help prevent recontamination.

Equipment Clean-Up

Because TRI-FORM 40/60 is corrosive under certain conditions, flush all application equipment with fuel oil, kerosene or a similar type of petroleum solvent immediately after use. Fill pumps and meters with new motor oil or a 50% motor oil/fuel oil mixture before storing. Do not use water. Dispose of rinsate by incorporation into field just treated or by other approved means. Never introduce rinsate or unused TRI-FORM 40/60 into surface or underground water supplies.

Fertility Interactions

Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when high rates of fertilizer and fumigant are applied to soils that are either cold, wet, acidic, or high in organic matter. To avoid injury to certain crops including red beets, carrots, corn, radishes, cole crops, legumes (beans), lettuce, onions, and sugarbeets, fertilize when possible as indicated by soil tests made after fumigation. Use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65°F. In mineral soils, do not apply more than 2/3 of the nitrogen requirements from fertilizers containing ammonium salts until the crop is well established and soil temperature is above 65°F. To avoid ammonia injury or nitrate starvation (or both) to crops grown on high organic soils, do not use fertilizers containing ammonium salts. When using high rates of Pic-Clor 60 as required by certain state nursery regulations, liming of highly acid soils before fumigation may stimulate nitrification and reduce the possibility of ammonia toxicity. Certain nursery crops such as citrus seedlings, *Cornus* sp., *Crataegus* sp., spruce, and vegetable crops such as cauliflower have shown evidence of phosphorus deficiency following fumigation. To avoid this possible effect, additional phosphate fertilizer (foliar applied) is recommended where experience indicates a deficiency may occur.

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 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 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 (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.

Air Monitoring Requirements, Respiratory Protection, and Stop Work Triggers

Air Monitoring Requirements

- When air-purifying respirators (full facepiece or gas mask) are worn, air monitoring samples for chloropicrin must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task.
- When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a 10-inch radius of the handler's nose and mouth.
- When using devices to monitor air concentration levels, a direct read detection device, such as an electronic device or a colorimetric device (e.g., Matheson-Kitagawa, Draeger, or Sensidyne) must be used. The devices must have sensitivity of at least 0.15 ppm for chloropicrin. Persons using direct read detection devices must follow the manufacturer's directions.

1. Handlers Wearing Half-Face Air-Purifying Respirators

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

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

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) while wearing a half-face respirator then either:
  - o (OPTION 1) 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
  - o (OPTION 2) Operations must cease and handlers not wearing air-purifying respirators (full facepiece or gas mask) must leave the application block and surrounding buffer zone.

For OPTION 1 [all handlers are wearing air-purifying respirators (full facepiece or gas mask)]

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

b) If at any time (1) a handler experiences sensory irritation when wearing 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.

i. Handlers can **resume** operations wearing half-face air-purifying respirators if all of the following conditions exist:
   - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm,
   - Handlers do not experience sensory irritation, and
   - 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 where the sensory irritation was first experienced or where sample(s) were greater than or equal to 1.5 ppm.

For OPTION 2 (Operations ceased)

a) Handlers can **resume** operations wearing half-face air-purifying respirators if all of the following conditions exist:
   - o Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm, and
   - o Handlers do not experience sensory irritation.
   - o 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 where the sensory irritation was first experienced.

2. Handlers in Enclosed Cabs (Not Applicable in CA)

(Handlers in enclosed cabs are not required to start work in half-face air-purifying respirators if the conditions in the *Personal Protective Equipment (PPE)* section are met).

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

- If at any time a handler experiences sensory irritation (tearing, burning of the eyes or nose) while in the enclosed cab, operations must cease and handlers must leave the application block and buffer zone.
- Operations may resume in the enclosed cab provided that:
  - o Two consecutive chloropicrin samples taken in the breathing zone of the handlers at the handling site at least 15 minutes apart must be less than 1.5 ppm,
  - o Handlers do not experience sensory irritation, and
  - o The filter has been changed.
  - o 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 where the sensory irritation was first experienced.

3. Handlers Applying the Fumigant with Equipment That Disrupts the Chisel Trace and Seals the Soil with One Implement, e.g., a Yetter Applicator (Not Applicable in California)

(Handlers applying the fumigant with equipment that disrupts the chisel trace and seals the soil with one implement, e.g., a Yetter Applicator are not required to start work in half-face air-purifying respirators).

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

- If at any time any handler experiences sensory irritation (tearing, burning of the eyes or nose) then either:
  - o (OPTION 1) 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
  - o (OPTION 2) 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.

For OPTION 1 [all handlers are wearing air-purifying respirators (full facepiece or gas mask)]

a) Handlers can remove air-purifying respirators (full facepiece or gas mask) if all of the following conditions exist:
   - o Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm, and
   - o Handlers do not experience sensory irritation.
   - o 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 where the sensory irritation was first experienced.

b) 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 breathing zone sample is greater than or equal to 1.5 ppm, then all handler activities must cease and handlers must be removed from the application block and the surrounding buffer zone.

- o Handlers can **resume** operations **without** wearing an air-purifying respirator (full facepiece or gas mask) if all of the following conditions exist:
  - Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm, and
  - 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 where the sensory irritation was first experienced or where sample(s) were greater than or equal to 1.5 ppm.
- o Handlers can **resume** operations **with** wearing an air-purifying respirator (full facepiece or gas mask) if all of the following conditions exist:
  - Two chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 1.5 ppm,
  - Handlers do not experience sensory irritation, and
  - 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 where the sensory irritation was first experienced or where sample(s) were greater than or equal to 1.5 ppm.

For OPTION 2 (Operations ceased)

a) Handlers can resume operations if all of the following conditions exist:
   - o Two consecutive chloropicrin breathing zone samples taken at the handling site at least 15 minutes apart must be less than 0.15 ppm, and
   - o Handlers do not experience sensory irritation.
   - o 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 where the sensory irritation was first experienced.

Tarp Perforation and/or Removal

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

- Tarps must not be perforated until a minimum of 5 days (120 hours) have elapsed after the application is complete, unless a weather condition exists which necessitates early tarp perforation or removal (see *Early Tarp Removal for Broadcast Applications Only* and *Early Tarp Perforation during Flood Prevention Activities for Bedded Applications Only* requirements).
- If tarps are perforated within 14 days after the application is complete, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps are perforated but not removed within 14 days after the application is complete, planting or transplanting must not begin until at least 48 hours after the tarp perforation is complete.
- If tarps are not perforated or removed within 14 days after the application is complete, planting or transplanting may take place while the tarps are being perforated.
- Each tarp panel used for broadcast 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"
- "1,3-dichloropropene and chloropicrin fumigants in use"
- The date and time of fumigation
- The date and time entry restricted period is over
- "TRI-FORM 40/60", 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.

Application Timing

Apply TRI-FORM 40/60 at any time of the year when soil conditions permit. Conditions that allow rapid diffusion of the fumigant as a gas through the soil normally give the best results. Because TRI-FORM 40/60 does not provide residual control of soil pests, use it as a preplant application before planting each crop.

Tarps (when tarps are used in TRI-FORM 40/60 applications)

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

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 in good tilth and free of large clods. Large clods can prevent effective soil sealing and reduce effectiveness of the application. If subsurface soil compaction layers (hardpans) are present within the intended fumigation treatment zone, a deep tillage to fracture these layers must occur prior to or during the soil fumigant application.
- Plant residue that is present must not interfere with the application or the soil seal. Non-decomposed plant material may harbor pests that will not be controlled by fumigation. Crop residue that is present must lie flat to permit the soil to be sealed effectively and limit the natural "chimneys" that may occur in the soil when plant residue is present. These "chimneys" allow the soil fumigants to move through the soil quickly and escape into the atmosphere. This may create potentially harmful conditions for workers and bystanders and limits the efficacy of the fumigant. Plant residue on the field serves to prevent soil erosion from both wind and water.
- 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

- The minimum soil temperature at the depth of injection is 40°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.

Soil Sealing

- *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. When using equipment similar to the Yetter applicator (chisel trace disruption and soil sealing are done with one implement), additional tillage and compaction are not required.
- *Bedded Applications:* Preformed beds must be sealed by disruption of the chisel trace using press sealers, bed shapers, cultipackers, or by reshaping (e.g., relisting, lifting and 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. When bedding, prebedders such as ripper hippers, hillers, or other prebedders may be used to disrupt the chisel trace and seal the soil. When using equipment similar to the Yetter applicator (chisel trace disruption and soil sealing are done with one implement), additional tillage and compaction are not required. Beds may be formed following the Yetter-type applicator in a normal interval consistent to area production practices.
- *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 Noble plow or other injection shank that disrupts the chisel traces. When bedding, prebedders such as ripper hippers, hillers, or other prebedders may be used to disrupt the chisel trace and seal the soil. When using equipment similar to the Yetter applicator (chisel trace disruption and soil sealing are done with one implement), additional tillage and compaction are not required. Beds may be formed following the Yetter-type applicator in a normal interval consistent to area production practices.

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:
  - o the USDA Feel and Appearance Method for testing (see below), or
  - o 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

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

- **Untarped Broadcast Applications:** The injection point must be a minimum of 12 inches from the nearest final soil/air interface.
- **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

- **Broadcast Applications:** Use chisel (shank) or coulter (e.g., Yetter 30-inch Avenger), offset wing shank, Noble (sweep) plow, or plow-sole application equipment. For best results when using chisel equipment, use ripper-type, forward-swept shanks. Noble plow equipment is particularly useful for fall fumigation when the soil still contains some standing undecomposed plant material. Subsoiling may be necessary before application. Choose application equipment that allows the deepest application and best soil seal under existing conditions.
  - o The fumigant outlet spacing varies with the type of application equipment used.
  - o With chisel and coulter equipment, a fumigant shank spacing of 12 to 24 inches is recommended. Do not exceed the maximum shank and outlet spacing of 24 inches. The outlet spacing for this equipment may be up to 1 1/2 times the application depth but generally should be equal to the application depth and should not exceed the soil-shattering capability of the chisels.
  - o With plow-sole equipment, 12-inch outlet spacing is recommended. Do not exceed an outlet spacing of 18 inches.
  - o With Noble (sweep) plow equipment, use an outlet spacing of 9 to 12 inches along the sweeps.
  - o Broadcast application can be made in the same direction or at an angle to the direction of row planting.
- **Bedded Applications (for Row Spacing Greater Than 24 Inches):** Use chisel equipment to treat a band of soil where the crop is to be planted, i.e., the plant row. When multiple chisels per plant row are used, space the chisels (fumigant outlets) no more than 12 inches apart.
  - o With certain deep rooted crops such as potatoes and sugar beets, higher rates may be necessary to ensure adequate treatment of the zone of soil where primary root growth occurs; however in no case should the amount of fumigant applied exceed the maximum rate given in Table 1.
  - o To prevent seed germination problems caused by improper seed-to-soil contact or improper planting depth, do not place the seed directly over the furrow left by the applicator chisel(s). When one chisel is used per plant row, place the seed about 4 inches to one side of the chisel furrow. When two chisels are used per plant row, plant the seed offset from the chisel trace.

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.
- The dispensing system must shut off the feed stream when chisels are raised out of the ground.
- Do not stop or park near any area where dribble from chisel tips has fallen.
- A flow shutoff device must be placed as close as is technically feasible to the fluid discharge point. This can be a ball, poppet, or diaphragm check valve, or full flow shutoff device such as an electric or pneumatically actuated valve.
- Service any system immediately if continuous drip occurs.
- If mechanical check valves and orifices are used, place the check valve above the orifice. Also, isolate the check valve from upstream pressure by installing a main line shut off or bypass valve prior to the manifold.
- Pipe diameter from check valve to injection point must not exceed 1/4 inches ID National Pipe Standard (NPS). Preferably, use the smallest diameter pipe or tubing possible which achieves the required flow rate.
- Do not use any method of end-row spillage control other than that which is stated on this labeling.
- Alternative end-row spillage devices or methods, such as, but not limited to, micro-bore restricted flow tubing or line purge systems may be used if they provide equal or superior control versus check valves.

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 flowmeter 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 or compressed air), if used, applicators must:

- o 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.)
- o 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.
- o 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.
- o 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:
  - o Check the filter, and clean or replace the filter element as required.
  - o Check all tubes and chisels to make sure they are free of debris and obstructions.
  - o Check and clean the orifice plates and screen checks, if installed.
  - o 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.

Planting Interval

- Leave the soil undisturbed and unplanted for at least 7 days after the application of TRI-FORM 40/60 is complete. A longer undisturbed interval is required if the soil becomes cold or wet, and for deep-rooted tree, shrub and vine planting sites.
- After fumigation to prevent phytotoxicity, allow the fumigant to dissipate completely before planting the crop. Dissipation is usually complete when TRI-FORM 40/60 can no longer be detected at the application depth. Under optimum soil conditions for dissipation, a period of 1 week for each 10 gallons per treated acre is generally required for complete dissipation. If tarps that qualify for either a 40% or a 60% buffer zone credit are used, a longer dissipation period may be needed. Rapidly germinating seed (i.e., lettuce or radish) and/or seed or transplants to be grown may be used as a bioassay to determine if TRI-FORM 40/60 is present in the soil at concentrations sufficient to cause plant injury.
- To hasten dissipation especially if heavy rains or low temperatures occur during the treatment period, till the soil to the depth of fumigant application. Use a knife-like chisel without turning the soil to reduce the possibility of recontaminating the treated soil. Dissipation is usually complete when TRI-FORM 40/60 is no longer evident at the application depth. Seed may be used as a bioassay to determine if TRI-FORM 40/60 is present in the soil at concentrations sufficient to cause plant injury. Do not plant if TRI-FORM 40/60 is detected.

Bulk and Non-Bulk Containers

- TRI-FORM 40/60 must be transferred through connecting hoses, pipes, and/or couplings sufficiently tight to prevent workers or other persons from coming in contact with liquid TRI-FORM 40/60.
- All hoses, piping, and tanks used in connection with TRI-FORM 40/60 shall be of the type appropriate for use under the pressure and vacuum conditions to be encountered.
- Do not use containers, pumps or other transfer equipment made of aluminum, magnesium or their alloys, as under certain conditions 1,3-dichloropropene may be severely corrosive to such metals.
- External sight gauges shall be equipped with valves so that pipes to sight gauge can be shut off in case of breakage or leakage.
- The mechanical transfer system must be adequate to make necessary measurements of the pesticide being used.
- Shut-off devices must be installed on the exit end of all hoses and at all disconnect points to prevent leakage of TRI-FORM 40/60 when the transfer is stopped and hose is removed or disconnected. A dry coupler that will minimize pesticide leakage must be installed at the disconnect point.
- The pressure in hoses used to move TRI-FORM 40/60 beyond a pump must not exceed the manufacturer's maximum pressure specifi-cation.

NOTE: In-tank cleaning of bulk tanks must be performed only by persons who have been specifically trained for this activity. Refer to OSHA 29 CFR Part 1910.146.

TABLE 1
TRI-FORM 40/60 PRODUCT APPLICATION RATES

Crop	Soil Type	Maximum Application Rates[(a)] for tarped shank bed, strip and broadcast; untarped shank bed; and untarped deep (18 inches) shank broadcast applications	
Vegetable Crops, Field Crops, Fruit and Nut Crops, Nursery Crops[1,2,3,4,5]	Mineral, Muck, or Peat	Gallons/ treated acre	Lbs/ treated acre
		48.6	588
		Maximum Application Rates[(a)] for untarped shank broadcast applications	
		Gallons/ treated acre	Lbs/ treated acre
		24.3	294

[(a)]Do not exceed specified maximum application rates in Table 1 or in the footnotes below.
[1]Row treatment is not recommended for potatoes in irrigated areas of western and northwestern states.
[2]For cyst-forming nematodes, increase dosage to 39 gallons product per treated acre for all applications except untarped shank broadcast.
[3]For muck soils containing less than 30% organic matter use 39 gallons product per treated acre for all applications except untarped shank broadcast.
[4]For mint apply 48.6 gallons product per treated acre for all applications except untarped shank broadcast.
[5]For burrowing nematode in citrus, inject on 18-inch centers, 12 inches deep. Keep free of plants susceptible to burrowing nematodes for 2 years before replanting citrus.
Note: To control symphylans (garden centipedes), use 38.5 to 48.6 gallons product per treated acre for all applications except untarped shank broadcast, or 24.3 gallons of product per treated acre for untarped shank broadcast applications. Apply during late Summer or early Fall when the soil is warm.
To control wireworms, use dosage recommended for nematodes. For wireworm control in soils to be planted to potatoes in Idaho, Nevada, Oregon, Utah, and Washington, refer to footnote 1 above.

Calculating the Broadcast Equivalent Application Rate

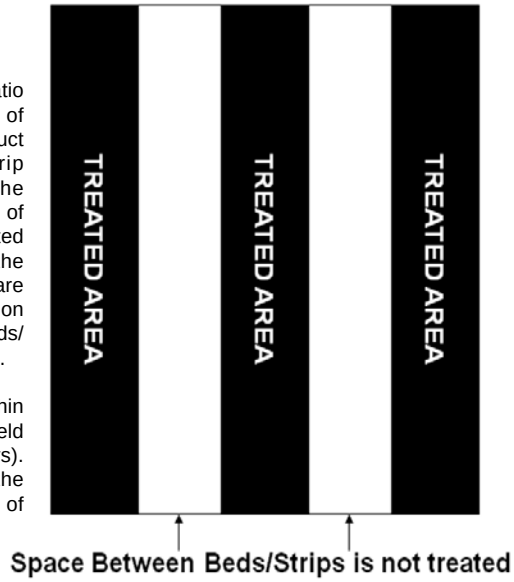
To calculate the broadcast equivalent rate for bedded or strip applications the following information is needed:

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

Pounds 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)

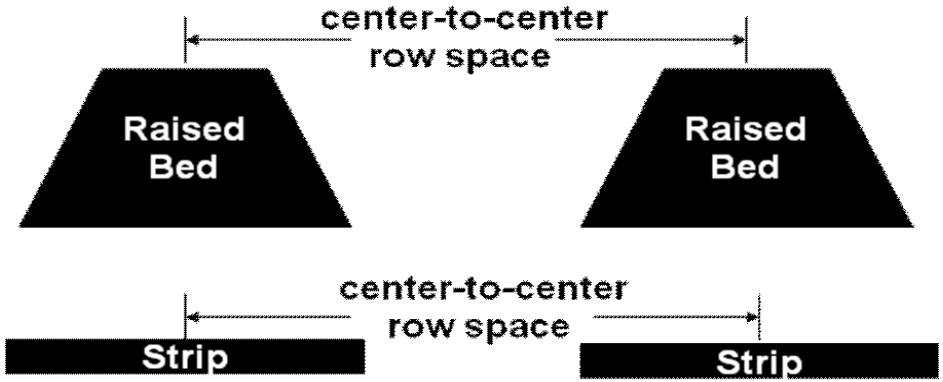


The "broadcast equivalent rate" must be calculated with the following formula:

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

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

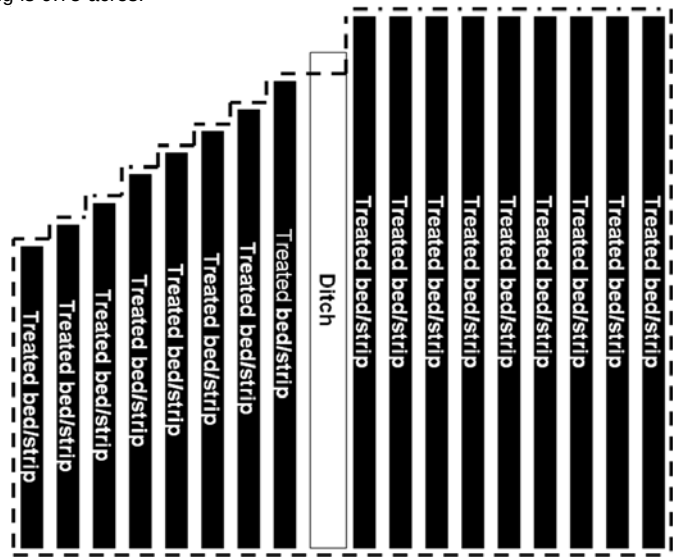
Figure 2. Center Row Spacing



Sample broadcast equivalent rate calculation

Assumptions:

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



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

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

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

Buffer Zone Requirements

A buffer zone must be established for every fumigant application. The following describes the buffer zone requirements: An area established around the perimeter of each application block.

- The buffer zone must extend outward from the edge of the application block perimeter equally in all directions.
- All non-handlers, including field workers, residents, pedestrians, and other bystanders, must be excluded from the buffer zone during the buffer zone period except for transit (see *Buffer Zone 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,
     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).

- If after applying all applicable buffer zone credits the buffer zone is greater than ½ mile (2,640 ft), then the application is prohibited.
- For all other applications Tables 2 to 7 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-FORM 40/60 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%.
- 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.i./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%.

Examples of Buffer Zone Calculations with Credits Applied

If the buffer zone is 50 feet, and the application qualifies for a buffer zone credit since the soil organic content is 1.5%, then the buffer zone can be reduced by 10%, i.e., reduced by 5 feet based on the following calculation: 50 feet – (50 feet x 10%) = 45 feet. If the buffer zone is 50 feet, and the application qualifies for two buffer zone credits since the soil organic content is 1.5% and the clay content is greater than 27%, then the buffer zone can be reduced by 20% (10% organic content credit + 10% clay content credit), i.e., reduced by 10 feet based on the following calculation 50 feet - (50 feet x 20%) = 40 feet.

Posting Fumigant Buffer Zones

- Posting of a **buffer zone** is required unless there is a physical barrier that prevents bystander access to the buffer zone.
- Buffer Zone signs must be placed along or outside the perimeter of the buffer zone, at all usual points of entry and along likely routes of approach from areas where people not under the owner's control may approach the buffer zone.
  - Some examples of points of entry include, but are not limited to, roadways, sidewalks, paths, and bike trails.
  - Some examples of likely routes of approach include, but are not limited to, the area between a buffer zone and a roadway, or the area between a buffer zone and a housing development.
  - When posting, the certified applicator supervising the application must ensure compliance with all local laws and regulations.
- Buffer Zone signs must meet the following criteria:
  - The printed side of the sign must face away from the application block toward areas from which people could approach.
  - Signs must remain legible during the entire posting period and must meet the general standards outlined in the WPS for sign size, text size, and legibility (see 40 CFR §170.120).
  - Signs must be posted no sooner than 24 hours prior to the start of the application and remain posted until the buffer zone period has expired.
  - Signs must be removed within 3 days after the end of the buffer zone period.
  - Buffer Zone signs which meet the criteria above will be provided at points of sale for applicators to use. Templates may be downloaded from http://www.epa.gov/pesticides/reregistration/soil_fumigants/index.htm
  - The Buffer Zone signs must contain the following information:
    - ☐ The 'Do Not Walk' symbol
    - ☐ DO NOT ENTER/NO ENTRE,
    - ☐ Chloropicrin/1,3-Dichloropropene TRI-FORM 40/60 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 the signs must be removed within 3-days after the buffer zone period for the last block has expired.

Table 2. Strip 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	130	140	150	160
76	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
84	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
93	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
101	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
110	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
118	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
126	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
135	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
143	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
152	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
160	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
168	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
177	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	475	509	543
185	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
193	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
202	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
310	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
219	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
227	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
235	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
244	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
252	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
360	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
269	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
277	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
286	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
294	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
302	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
311	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
319	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
328	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
336	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
344	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
352	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
361	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
370	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
378	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
386	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
395	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
403	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
412	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
420	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
428	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
437	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
445	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

Table 3. Bed Tarp Buffer Zone Distances in Feet

	Application Block Size (acres)																											
Broadcast Equivalent Application Rate (lbs Product/Acre)	**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**
126	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	34	43	51	60	65	70	75	80
143	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	43	60	78	95	103	111	119	127
152	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	40	55	74	93	119	145	157	169	181	193
160	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	55	85	105	125	160	195	211	228	244	260
168	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	45	63	93	123	143	163	193	223	241	260	278	297
177	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	65	100	130	160	180	200	225	250	271	292	313	333
185	25	25	25	25	25	25	25	25	25	25	25	25	25	25	45	65	135	155	183	210	230	250	283	315	341	368	394	420
193	25	25	25	25	25	25	25	25	25	25	25	25	25	43	70	95	145	168	203	238	256	275	310	345	374	403	431	460
202	25	25	25	25	25	25	25	25	25	25	25	25	25	60	95	125	155	180	223	265	283	300	338	375	406	438	469	500
210	25	25	25	25	25	25	25	25	25	25	25	25	55	78	110	143	188	210	251	293	315	338	388	438	474	510	547	583
219	25	25	25	25	25	25	25	25	25	25	25	25	85	95	125	160	220	240	280	320	348	375	438	500	542	583	625	667
227	25	25	25	25	25	25	25	25	25	25	25	50	103	113	143	180	230	253	300	348	374	400	463	525	569	613	656	700
235	25	25	25	25	25	25	25	25	25	25	25	75	120	130	160	200	240	265	320	375	400	425	488	550	596	642	688	733
244	25	25	25	25	25	25	25	25	25	25	45	100	135	160	175	220	275	300	350	400	438	475	528	580	628	677	725	773
252	25	25	25	25	25	25	25	25	25	25	70	120	148	178	200	248	298	325	379	433	466	500	555	610	661	712	763	813
260	25	25	25	25	25	25	25	25	25	25	95	140	160	195	225	275	320	350	408	465	495	525	583	640	693	747	800	853
269	25	25	25	25	25	25	25	25	25	25	108	153	178	213	243	283	330	373	428	483	523	563	613	663	718	773	828	883
277	25	25	25	25	25	25	25	25	25	25	120	165	195	230	260	290	340	395	448	500	550	600	643	685	742	799	856	913
286	25	25	25	25	25	29	33	37	41	45	128	173	213	245	278	310	360	410	474	538	588	638	678	718	777	837	897	957
294	25	25	25	25	25	33	41	49	57	65	135	180	230	260	295	330	380	425	500	575	625	675	713	750	813	875	938	1000
302	25	25	25	25	25	34	42	50	59	67	139	185	237	267	303	339	391	437	514	591	643	694	733	771	836	900	964	1029
311	25	25	25	25	25	35	43	52	60	69	143	190	243	275	312	349	402	449	529	608	661	714	753	793	859	925	991	1057
319	25	25	25	25	25	36	45	53	62	71	147	195	250	282	320	358	413	461	543	624	679	733	774	814	882	950	1018	1086
328	25	25	25	25	30	37	46	55	64	72	150	201	256	290	329	368	423	474	557	641	696	752	794	836	905	975	1045	1114
336	25	25	25	25	30	38	47	56	65	74	154	206	263	297	337	377	434	486	571	657	714	771	814	857	929	1000	1071	1143
344	25	25	25	30	30	39	48	57	67	76	158	211	269	305	346	387	445	498	586	674	732	791	835	879	952	1025	1098	1171
353	25	25	25	30	30	40	49	59	68	78	162	216	276	312	354	396	456	510	600	690	750	810	855	900	975	1050	1125	1200
361	25	25	25	30	30	41	50	60	70	80	166	221	283	319	362	405	467	522	614	706	768	829	875	921	998	1075	1152	1229
370	25	25	25	30	30	41	52	62	72	82	170	226	289	327	371	415	478	534	629	723	786	849	896	943	1021	1100	1179	1257
378	25	25	25	30	35	42	53	63	73	84	174	231	296	334	379	424	489	546	643	739	804	868	916	964	1045	1125	1205	1286
386	25	25	25	30	35	43	54	64	75	85	177	237	302	342	388	434	499	559	657	756	821	887	936	986	1068	1150	1232	1314
395	25	25	25	30	35	44	55	66	77	87	181	242	309	349	396	443	510	571	671	772	839	906	957	1007	1091	1175	1259	1343
403	25	25	25	30	35	45	56	67	78	89	185	247	315	357	405	453	521	583	686	789	857	926	977	1029	1114	1200	1286	1371
412	25	25	25	30	35	46	57	69	80	91	189	252	322	364	413	462	532	595	700	805	875	945	998	1050	1138	1225	1313	1400
420	25	25	30	30	35	47	59	70	81	93	193	257	329	371	421	471	543	607	714	821	893	964	1018	1071	1161	1250	1339	1429
428	25	25	30	35	40	48	60	71	83	95	197	262	335	379	430	481	554	619	729	838	911	984	1038	1093	1184	1275	1366	1457
437	25	25	30	35	40	49	61	73	85	97	201	267	342	386	438	490	565	631	743	854	929	1003	1059	1114	1207	1300	1393	1486
445	25	25	30	35	40	50	62	74	86	98	204	273	348	394	447	500	575	644	757	871	946	1022	1079	1136	1230	1325	1420	1514

Table 4. Bed Untarp (both preformed beds and beds listed/disk hilled at the time of application) 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	130	140	150	160
59	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	40	50	60	75
68	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	75	81	88	94	100
76	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	40	65	90	93	95	121	148	160	172	184	197
84	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	55	105	155	160	165	193	220	238	257	275	293
93	25	25	25	25	25	25	25	25	25	25	25	25	25	25	43	55	88	108	148	188	198	208	229	250	271	292	313	333
101	25	25	25	25	25	25	25	25	25	25	25	25	25	25	60	85	150	160	190	220	235	250	265	280	303	327	350	373
110	25	25	25	25	25	25	25	25	25	25	25	25	53	63	100	120	183	193	223	253	285	318	349	380	412	443	475	507
118	25	25	25	25	25	25	25	25	25	25	25	25	80	100	140	155	215	225	255	285	335	385	433	480	520	560	600	640
126	25	25	25	25	25	25	25	25	25	25	45	95	125	150	200	215	240	275	325	375	425	475	520	565	612	659	706	753
135	25	25	25	25	25	25	25	25	25	25	68	123	155	183	225	240	278	330	378	425	475	525	566	608	658	709	759	810
143	25	25	25	25	25	25	25	25	25	25	90	150	185	215	250	265	315	385	430	475	525	575	613	650	704	758	813	867
152	25	25	25	25	25	25	32	39	46	53	115	168	203	233	268	293	350	433	481	530	576	623	668	713	772	831	891	950
160	25	25	25	25	25	25	39	53	66	80	140	185	220	250	285	320	385	480	533	585	628	670	723	775	840	904	969	1033
168	25	25	25	25	25	25	43	61	79	98	153	200	238	280	318	350	418	510	570	630	679	728	776	825	894	963	1031	1100
177	25	25	25	25	25	25	48	70	93	115	165	215	255	310	350	380	450	540	608	675	730	785	830	875	948	1021	1094	1167
185	25	25	25	25	25	25	51	78	104	130	200	250	310	350	400	435	490	575	650	725	778	830	898	965	1045	1126	1206	1287
193	25	30	32	36	39	43	68	94	119	145	213	268	330	365	418	455	533	608	679	750	799	848	928	1008	1091	1175	1259	1343
202	25	32	39	46	53	60	85	110	135	160	225	285	350	380	435	475	575	640	708	775	820	865	958	1050	1138	1225	1313	1400
210	30	40	49	59	68	78	101	125	149	173	243	303	368	415	460	513	613	660	743	825	873	920	1000	1080	1170	1260	1350	1440
219	30	43	56	69	82	95	118	140	163	185	260	320	385	450	485	550	650	680	778	875	925	975	1043	1110	1203	1295	1388	1480
227	30	45	59	74	88	103	126	150	174	198	273	335	405	468	510	565	668	730	815	900	969	1038	1090	1143	1238	1333	1428	1523
235	35	50	65	80	95	110	135	160	185	210	285	350	425	485	535	580	685	780	853	925	1013	1100	1138	1175	1273	1371	1469	1567
244	40	56	72	88	104	120	146	173	199	225	315	385	440	540	575	625	775	870	915	960	1068	1175	1250	1325	1435	1546	1656	1767
252	45	63	80	98	115	133	159	185	211	238	328	393	463	553	600	650	805	893	974	1055	1149	1243	1340	1438	1557	1677	1797	1917
260	50	69	88	107	126	145	171	198	224	250	340	400	485	565	625	675	835	915	1033	1150	1230	1310	1430	1550	1679	1808	1938	2067
269	55	75	94	114	133	153	181	210	239	268	358	418	508	578	645	720	855	948	1056	1165	1255	1345	1479	1613	1747	1881	2016	2150
277	60	80	100	120	140	160	191	223	254	285	375	435	530	590	665	765	875	980	1080	1180	1280	1380	1528	1675	1815	1954	2094	2233
286	65	88	111	134	157	180	211	243	274	305	418	460	555	633	708	778	925	1075	1164	1253	1363	1473	1586	1700	1842	1983	2125	2267
294	75	100	125	150	175	200	231	263	294	325	460	485	580	675	750	790	975	1170	1248	1325	1445	1565	1645	1725	1869	2013	2156	2300
302	77	103	129	154	180	206	238	270	302	334	473	499	597	694	771	813	1003	1203	1283	1363	1486	1610	1692	1774	1922	2070	2218	2366
311	79	106	132	159	185	211	244	278	311	344	486	513	613	714	793	835	1031	1237	1319	1401	1528	1654	1739	1824	1976	2128	2279	2431
319	81	109	136	163	190	217	251	285	319	353	499	527	630	733	814	858	1059	1270	1354	1439	1569	1699	1786	1873	2029	2185	2341	2497
328	84	111	139	167	195	223	258	293	327	362	513	540	646	752	836	880	1086	1304	1390	1476	1610	1744	1833	1922	2082	2243	2403	2563
336	86	114	143	171	200	229	264	300	336	371	526	554	663	771	857	903	1114	1337	1426	1514	1651	1789	1880	1971	2136	2300	2464	2629
344	88	117	146	176	205	234	271	308	344	381	539	568	679	791	879	925	1142	1371	1461	1552	1693	1833	1927	2021	2189	2358	2526	2694
353	90	120	150	180	210	240	278	315	353	390	552	582	696	810	900	948	1170	1404	1497	1590	1734	1878	1974	2070	2243	2415	2588	2760
361	92	123	154	184	215	246	284	323	361	399	565	596	713	829	921	971	1198	1437	1533	1628	1775	1923	2021	2119	2296	2473	2649	2826
370	94	126	157	189	220	251	291	330	369	409	578	610	729	849	943	993	1226	1471	1568	1666	1817	1967	2068	2169	2349	2530	2711	2891
378	96	129	161	193	225	257	297	338	378	418	591	624	746	868	964	1016	1254	1504	1604	1704	1858	2012	2115	2218	2403	2588	2772	2957
386	99	131	164	197	230	263	304	345	386	427	605	637	762	887	986	1038	1281	1538	1640	1741	1899	2057	2162	2267	2456	2645	2834	3023
395	101	134	168	201	235	269	311	353	394	436	618	651	779	906	1007	1061	1309	1571	1675	1779	1940	2102	2209	2316	2509	2703	2896	3089
403	103	137	171	206	240	274	317	360	403	446	631	665	795	926	1029	1083	1337	1605	1711	1817	1982	2146	2256	2366	2563	2760	2957	3154
412	105	140	175	210	245	280	324	368	411	455	644	679	812	945	1050	1106	1365	1638	1747	1855	2023	2191	2303	2415	2616	2818	3019	3220
420	107	143	179	214	250	286	330	375	420	464	657	693	829	964	1071	1129	1393	1671	1782	1893	2064	2236	2350	2464	2670	2875	3080	3286
428	109	146	182	219	255	291	337	383	428	474	670	707	845	984	1093	1151	1421	1705	1818	1931	2106	2280	2397	2514	2723	2933	3142	3351
437	111	149	186	223	260	297	344	390	436	483	683	721	862	1003	1114	1174	1449	1738	1853	1969	2147	2325	2444	2563	2776	2990	3204	3417
445	114	151	189	227	265	303	350	398	445	492	697	734	878	1022	1136	1196	1476	1772	1889	2006	2188	2370	2491	2612	2830	3048	3265	3483

If after applying applicable credits the buffer zone distances are still greater than ½ mile (2,640 feet), then the application is prohibited.

Buffer for Compacted Untarp Beds (beds listed/disk hilled and compacted at the time of application in one pass) is 25 feet.

Table 5. Broadcast Tarp Buffer Zone Distances in Feet

Broadcast 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	130	140	150	160
118	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
135	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
152	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
160	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
168	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
177	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
185	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
193	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
202	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
210	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
219	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
227	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
235	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
244	25	25	25	25	25	30	30	30	32	34	64	94	112	129	147	164	198	231	259	286	311	335	360	380	412	443	475	507
252	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
261	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
269	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
277	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
286	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
294	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
302	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
311	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
319	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
328	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
336	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
344	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
353	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
361	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
370	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
378	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
386	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
395	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
403	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
412	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
420	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
428	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
437	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
445	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
454	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
462	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
470	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
479	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
487	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
495	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
504	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
512	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
521	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
529	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
537	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
546	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
554	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
563	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
571	46	86	126	166	206	227	247	267	288	308	386	464	528	591	648	704	799	894	949	1003	1053	1053	1148	1188	1287	1386	1485	1584
579	48	89	129	170	211	231	251	271	291	311	390	469	535	601	658	714	811	907	959	1011	1061	1111	1156	1196	1296	1395	1495	1595
588	50	91	133	174	215	235	255	275	295	315	395	475	543	610	668	725	823	920	970	1020	1070	1120	1165	1205	1305	1406	1506	1607

Table 6. Broadcast Untarp Buffer Distances in Feet

Broadcast 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	130	140	150	160
51	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
59	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
68	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
76	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
84	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
93	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
101	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
110	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
118	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
126	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
135	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
143	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
152	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
160	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
168	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
177	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
185	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
193	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
202	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
210	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
219	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
227	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
235	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
244	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
252	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
261	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
269	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
277	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
286	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
294	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

If after applying applicable credits the buffer zone distances are still greater than ½ mile (2,640 feet), then the application is prohibited.

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

Broadcast 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	130	140	150	160
51	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
59	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
68	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
76	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
84	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
93	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
101	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
110	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
118	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
126	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
135	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
143	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
152	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
160	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
168	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
177	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
185	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
193	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
202	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
210	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
219	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
227	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
235	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
244	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
252	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
261	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
269	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
277	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
286	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
294	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
303	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
311	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
319	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
328	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
336	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
344	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
353	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
361	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
370	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
378	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
386	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
395	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
403	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
412	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
420	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
428	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
437	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
445	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
454	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
462	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
470	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
479	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
487	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
495	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
504	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
512	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
521	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
529	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
537	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
545	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
554	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
563	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
571	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
579	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
588	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

If after applying applicable credits the buffer zone distances are still greater than ½ mile (2,640 feet), then the application is prohibited.

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 outside of 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 Verify if 1,3-dichloropropene has been used on this application block in the previous two years
  - o Confirm that there will be no occupied structures within 100 feet of the application block during the 7 consecutive day period after the application is complete
  - 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
    - wells
    - karst topography
    - 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,
  - o Method used to determine soil moisture, and
  - o Soil temperature measurement if air temperatures were above 100° F in any of the 3 days prior to the application.
- 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
  - Symmetry™ application system
- 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
  - Chemical-resistant suit
  - Chemical-resistant headgear
  - 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.

■ If using an enclosed cab in lieu of wearing an air-purifying respirator, verify that the cab:
- o Has positive pressure (6 mm H_2O Gauge).
- o Has a minimum air intake flow of 43 m^3/hour.
- o Is equipped with activated charcoal filter-media containing no less than 1000 grams of activated charcoal.
- o Document the application hours of the filter to confirm that the filter has been used for no more than 50 hours of application time.
- o In addition document that the ventilation system has been maintained according to manufacturer's instructions.

■ 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).

■ 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 less than 0.15 ppm.