# 2020-5842 2020-01-29

{Label TOG-LB-201122 (English) - Changes}

# **TERR-O-GAS® 67** PREPLANT SOIL FUMIGANT

LIQUID Product of U.S.A.

**RESTRICTED PRODUCT CONTAINS METHYL BROMIDE AND CHLOROPICRIN.** Controls insects, nematodes, soil-borne fungi and certain weeds.

**GUARANTEE:** 

THIS PRODUCT CAN ONLY BE USED IN CONJUNCTION WITH A DETAILED FUMIGATION MANAGEMENT PLAN

READ THE ENTIRE LABEL AND BOOKLET, INCLUDING INSTRUCTIONS FOR PREPARATION OF A FUMIGATION MANAGEMENT PLAN, BEFORE USING

ANY OF THE AUTHORIZED USES UNDER THE *PEST CONTROL PRODUCTS ACT* MUST COMPLY WITH APPLICABLE REQUIREMENTS UNDER THE *OZONE-DEPLETING SUBSTANCES REGULATIONS*, 1998 UNDER THE AUTHORITY OF THE *CANADIAN ENVIRONMENTAL PROTECTION ACT* (CEPA, 1999). FOR FURTHER INFORMATION, CONTACT ENVIRONMENT CANADA.

Only to be sold to and used by individuals holding an appropriate pesticide applicator certificate or license recognized by the provincial/territorial pesticide regulatory agency where the pesticide application occurs.

(LANXESS logo) LANXESS Corporation 111 RIDC Park West Drive • Pittsburgh, PA 15275 • U.S.A. 1-800-949-5167

NET CONTENTS: \_\_\_\_\_ KGS. LOT NO. \_\_\_\_\_

**NOTICE TO USER** - This pest control product is to be used only in accordance with the directions on this label and corresponding booklet. It is an offence under *The Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label and booklet. The user assumes the risk to persons or property that arises from any such use of this product.

# NATURE OF RESTRICTION

Methyl bromide has an adverse effect on the ozone layer and is now controlled under the Montreal Protocol. All efforts should be made to prevent emissions and, where feasible, to recover and recycle.

#### ANY OF THE AUTHORIZED USES UNDER THE PEST CONTROL PRODUCTS ACT MUST COMPLY WITH APPLICABLE REQUIREMENTS UNDER THE OZONE-DEPLETING SUBSTANCES REGULATIONS, 1998 UNDER THE AUTHORITY OF THE CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA, 1999). FOR FURTHER INFORMATION, CONTACT ENVIRONMENT CANADA.

This product is only to be sold to and used by individuals holding an appropriate pesticide applicator certificate or license recognized by the provincial/territorial pesticide regulatory agency where the pesticide application is to occur. This restriction applies to all fumigant handlers, as defined in the **DIRECTIONS FOR USE**, **Handler Restrictions** section of this label.

This product can only be used in conjunction with a detailed Fumigation Management Plan. Prior to the start of application, the applicator must verify that a site-specific Fumigation Management Plan exists for each application block.

This product is accompanied by an approved label, including Instructions for Preparation of a Fumigant Management Plan. READ AND UNDERSTAND THE ENTIRE LABEL AND BOOKLET BEFORE USING.

**RESTRICTED USES** - Preplant soil fumigant.

# PRECAUTIONS

## **KEEP OUT OF REACH OF CHILDREN**

DANGER - Extremely hazardous liquid and vapour. Do not breathe vapour. Inhalation of methyl bromide may be fatal or cause serious acute illness or delayed lung or nervous system injury. Liquid or vapour can cause serious skin or eye injury which may have a delayed onset. Contact with methyl bromide can cause burns. **Do not get liquid on skin, in eyes or on clothing.** 

# Methyl Bromide vapour is odourless and nonirritating to skin and eyes during exposure. Exposure to toxic levels may occur without warning to detection by the user.

This product contains chloropicrin which may be irritating to the upper respiratory tract and may cause painful irritation to the eyes, producing watering. If these symptoms occur, leave the fumigation area immediately.

## TOXICOLOGICAL INFORMATION

Nausea and vomiting are most distressing symptoms and may require treatment. Support of the respiratory system dictates a semi-reclining position and maintenance of airway. Oxygen should be used. If respiration fails, artificial respiration by an appropriate means may be necessary. Supportive care should be administered by appropriate health care professionals.

Central nervous system effects are extremely difficult to control and treatment should be administered by appropriate health care professionals. Hyper-excitability, convulsions, respiratory depression and circulatory failure should be treated by appropriate health care professionals.

Respiratory depression must be guarded against. Circulatory failure may be combated by intravenous solutions and levarterenol bitartrate.

Burns resulting from skin contact with the liquid material should be treated in a manner similar to thermal burns following decontamination.

## PERSONAL PROTECTIVE EQUIPMENT

Methyl bromide may be trapped inside clothing and cause skin injury.

When performing tasks with potential for contact with liquid fumigant, wear a loose fitting long-sleeved shirt, long pants, chemical-resistant gloves, a chemical-resistant apron, chemical-resistant footwear with socks, and protective eyewear (for example, full-face shield or safety glasses with brow and temple shields. DO NOT wear goggles).

When performing tasks with NO potential for contact with liquid fumigant, wear a loose fitting long-sleeved shirt, long pants, and shoes plus socks.

Do not wear protective coveralls, jewellery, bandages or carry cigarettes, wallets, etc.

Some materials that are chemical-resistant to this product are Teflon<sup>®</sup>, EVAL barrier laminate and Viton<sup>®</sup>. The personal protective equipment must be adequately cleaned and maintained.

Wear a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied respirator/SCBA during ALL operations (introduction of the fumigant, initiation of aeration, after aeration when testing for re-entry, attending to spills and leaks, removing warning signs) until the concentration of methyl bromide is at or below 3 ppm.

In addition, when an air-purifying respirator is required under this label's **DIRECTION FOR USE**, **Respiratory Protection and Stop Work Triggers** section, all fumigant handlers must wear at a minimum either:

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

Respirators must fit properly. Any obstruction to a proper fit should be removed (for example, beard, long sideburns).

All fumigant handlers must have an air-purifying respirator and appropriate cartridges immediately available to them.

## FIRST AID

Take container, label or product name and Pest Control Product Registration Number with you when seeing medical attention.

IF SWALLOWED: Call a poison control centre 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 centre or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouthto-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

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

# **ENVIRONMENTAL HAZARDS**

Toxic to aquatic organisms, birds and wild mammals. Toxic to wildlife.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

The use of this chemical may result in in it leaching to groundwater, particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow. While chloropicrin has certain properties and characteristics in common with chemicals that have been detected in groundwater (high solubility in water and low adsorption to soil), volatilization of this fumigant is expected to be the major route of dissipation from the treatment site.

# HANDLER RESTRICTIONS

Any person involved in the use of this product is considered a fumigant handler.

All fumigant handlers must hold an appropriate pesticide applicator certificate or license recognized by the provincial/territorial pesticide regulatory agency where the pesticide application is to occur.

Only fumigant handlers with an appropriate pesticide applicator certificate or license may be in the application block from the start of the application until the Application Period expires, and in the buffer zone during the Buffer Zone Period.

Exception: Emergency personnel and local, provincial or federal officials performing inspections, sampling or other similar duties may enter the application block and/or buffer zone as required.

- The application block is the area within the perimeter of the fumigated portion of a field (including furrows, irrigation ditches, roadways).
- A buffer zone is an area established around the perimeter of an application block.
- Application *starts* when the fumigant is first introduced into the soil and is *complete* when the fumigant has stopped being delivered/dispensed into the soil and the soil has been sealed.
- The duration of the Application Block Period and the Buffer Zone Period is outlined in the **DIRECTIONS FOR USE**, Application Block **Period and Notification** and **Buffer Zone Requirements** sections of this label.

In addition, only fumigant handlers can perform tasks with potential for contact with liquid fumigant including:

- Cleaning up fumigant spills
- Handling or disposing of fumigant containers, and
- Cleaning, handling, adjusting, or repairing the parts of fumigation equipment that contain fumigant residues.

All fumigant handlers, emergency personnel, and local, provincial or federal officials must wear the appropriate personnel protective equipment outlined in the **PRECAUTIONS**, **Personnel Protective Equipment** section of this label.

At least two fumigant handlers must be present at all times to monitor one another.

# SPILL AND LEAK PROCEDURES

Evacuate immediate area of spill or leak. Use a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination airsupplied/SCBA respirator for entry into affected area to correct problem. Allow spill to evaporate. DO NOT permit entry into spill area by any persons without appropriate respiratory protection, until:

- the concentration of methyl bromide is determined to be less than 3 ppm,
- two consecutive breathing-zone samples taken at least 15 minutes apart show that levels of chloropicrin have decreased to less than 0.15 ppm, AND,
- no sensory irritation is experienced.

Remove leaking containers to an isolated area and cover with a polyethylene sheeting of 6 mil or greater thickness. Seal by placing the outside edges of tarpaulin in a trench and cover with soil. Tamp soil down so edges will not pull loose. Discharge the contents under the tarpaulin. Contaminated soil, water and other clean-up debris is a toxic hazardous waste. For information on the cleanup of soils, contact the provincial regulatory agency or the manufacturer.

# PESTICIDE STORAGE AND HANDLING

This product must be stored away from lodging for humans, animal quarters and normal work areas to avoid inadvertent exposure. Store in a dry, cool, well-ventilated area under lock and key. Post as a pesticide storage area.

Do not contaminate water, food, or feed by storage. Store cylinders upright, secured to a rack or wall to prevent tipping. To prevent contamination, store this product away from food or feed.

Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging or sliding. Do not use rope slings, hooks, tongs or similar devices to unload cylinders.

Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured.

Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

# DISPOSAL

## **Product Disposal:**

Pesticide wastes are toxic. Open dumping is prohibited. Do not discharge this product, or material containing this product, into natural waterways or municipal wastewater collection systems. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

## **Container Disposal:**

When cylinder is empty, close valve by turning clockwise until hand tight, screw safety cap onto valve outlet, and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose. Follow registrant's instructions for return of empty or partially empty cylinders.

# **RETURN OF CYLINDERS**

- 1. Cylinders are the property of the manufacturer or distributor where purchased and should be returned promptly by collect freight.
- 2. Do not ship cylinders without safety caps or valve protection bonnets.
- 3. When a cylinder is partially full and there is no further requirement for the product, contact the manufacturer or distributor for return instructions.
- 4. Containers should never be refilled by the consumer or used for any other product or purpose.

Consult the Terr-O-Gas® 67 Booklet **# TOG67-6Rev.B** for information regarding Directions for Use and Precautions. The booklet includes: maximum application rates, Handler Use Precautions and Restrictions, additional safety requirements, Good Agricultural Practices, instructions for a Fumigant Management Plan, Buffer Zone requirements, Emergency Response, etc. Read the entire label and booklet before using.

USE ONLY ACCORDING TO LABEL AND BOOKLET DIRECTIONS.

{Booklet TOG-BK-201122 (English) - Changes}

# TERR-O-GAS® 67 Booklet # TOG67-6Rev.B

PREPLANT SOIL FUMIGANT LIQUID Product of U.S.A.

**RESTRICTED PRODUCT CONTAINS METHYL BROMIDE AND CHLOROPICRIN.** 

Controls insects, nematodes, soil-borne fungi and certain weeds.

#### **GUARANTEE:**

Methyl bromide	67.0%
Chloropicrin	
<b>REGISTRATION NO. 13477 PEST CONT</b>	ROL PRODUCTS ACT
DANGER (with skull and crossbones symb	ol) POISON

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# PRECAUTIONS

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Methyl Bromide vapour is odourless and nonirritating to skin and eyes during exposure. Exposure to toxic levels may occur without warning to detection by the user.

This product contains chloropicrin which may be irritating to the upper respiratory tract and may cause painful irritation to the eyes, producing watering. If these symptoms occur, leave the fumigation area immediately.

# HANDLER USE PRECAUTIONS

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside and/or comes in contact with skin through soaked clothing of spills. Then wash skin thoroughly and put on clean clothing. Wash contaminated clothing separately from other clothes before re-use.
- Store personal protective equipment out of reach of children and pets.
- Avoid touching 'clean' surfaces (for example, steering wheel, door handles, counter tops) while wearing personal protective equipment or thoroughly clean these surfaces afterwards with water and detergent.
- Remove personal protective equipment immediately after handling this product. Remove personal protective equipment outside in a predetermined area separate from living or working areas.
- Wash the outside of the gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Avoid touching eyes and face until you have washed your hands.
- Never use the mouth to siphon product from containers or to blow out clogged lines, nozzles, etc.
- Respirators should be stored in a sealed plastic bag until the next use, to preserve the life of the filter. Regularly change respirator cartridge filters.
- Repair/replace torn or broken personal protective equipment.
- Do not reuse clothing or shoes until thoroughly washed. Use hot water, heavy-duty liquid detergent, the highest water level setting, and the longest wash cycle. Keep and wash personal protective equipment separately from other laundry.
- If heavily soiled, wash personal protective equipment two or three times. After washing, run the washing machine through a complete cycle with detergent. If possible, line-dry the clothing.
- Discard clothing, shoes and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

# PERSONAL PROTECTIVE EQUIPMENT

This product can be trapped inside clothing and cause skin injury, therefore wear lose fitting clothing.

When performing tasks with potential for contact with liquid fumigant, wear a loose fitting long-sleeved shirt, long pants, chemical-resistant gloves, a chemical-resistant apron, chemical-resistant footwear with socks, and protective eyewear (for example, full-face shield or safety glasses with brow and temple shields. DO NOT wear goggles).

When performing tasks with NO potential for contact with liquid fumigant, wear a loose fitting long-sleeved shirt, long pants, and shoes plus socks.

Do not wear protective coveralls, jewellery, bandages or carry cigarettes, wallets, etc

Some materials that are chemical-resistant to this product are Teflon®, EVAL barrier laminate and Viton®. The personal protective equipment must be adequately cleaned and maintained.

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In addition, when an air-purifying respirator is required under this label's **DIRECTION FOR USE**, **Respiratory Protection and Stop Work Triggers** section, all fumigant handlers must wear at a minimum either:

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

Respirators must fit properly. Any obstruction to a proper fit should be removed (for example, beard, long sideburns).

All fumigant handlers must have an air-purifying respirator and appropriate cartridges immediately available to them.

#### FIRST AID

Take container, label or product name and Pest Control Product Registration Number with you when seeing medical attention.

IF SWALLOWED: Call a poison control centre 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 centre or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouthto-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

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

# TOXICOLOGICAL INFORMATION

Nausea and vomiting are most distressing symptoms and may require treatment. Support of the respiratory system dictates a semi-reclining position and maintenance of airway. Oxygen should be used. If respiration fails, artificial respiration by an appropriate means may be necessary. Supportive care should be administered by appropriate health care professionals.

Central nervous system effects are extremely difficult to control and treatment should be administered by appropriate health care professionals. Hyper-excitability, convulsions, respiratory depression and circulatory failure should be treated by appropriate health care professionals.

Respiratory depression must be guarded against. Circulatory failure may be combated by intravenous solutions and levarterenol bitartrate.

Burns resulting from skin contact with the liquid material should be treated in a manner similar to thermal burns following decontamination.

# ENVIRONMENTAL HAZARDS

Toxic to aquatic organisms, birds and wild mammals. Toxic to wildlife.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

The use of this chemical may result in in it leaching to groundwater, particularly in areas where soils are permeable (e.g. sandy soil) and/or the depth to the water table is shallow. While chloropicrin has certain properties and characteristics in common with chemicals that have been detected in groundwater (high solubility in water and low adsorption to soil), volatilization of this fumigant is expected to be the major route of dissipation from the treatment site.

# **DIRECTIONS FOR USE**

# HANDLER RESTRICTIONS

Any person involved in the use of this product is considered a fumigant handler.

All fumigant handlers must hold an appropriate pesticide applicator certificate or license recognized by the provincial/territorial pesticide regulatory agency where the pesticide application is to occur.

Only fumigant handlers with an appropriate pesticide applicator certificate or license may be in the application block from the start of the application until the Application Period expires, and in the buffer zone during the Buffer Zone Period.

Exception: Emergency personnel and local, provincial or federal officials performing inspections, sampling or other similar duties may enter the application block and/or buffer zone as required.

- The application block is the area within the perimeter of the fumigated portion of a field (including furrows, irrigation ditches, roadways).
- A <u>buffer zone</u> is an area established around the perimeter of an application block.
- Application *starts* when the fumigant is first introduced into the soil and is *complete* when the fumigant has stopped being delivered/dispensed into the soil and the soil has been sealed.
- The duration of the Application Block Period and the Buffer Zone Period is outlined in the **Application Block Period and Notification** and **Buffer Zone Requirements** sections of this label.

In addition, only fumigant handlers can perform tasks with potential for contact with liquid fumigant including:

- Cleaning up fumigant spills
- Handling or disposing of fumigant containers, and
- Cleaning, handling, adjusting, or repairing the parts of fumigation equipment that contain fumigant residues.

All fumigant handlers, emergency personnel, and local, provincial or federal officials must wear the appropriate personal protective equipment outlined in the **PRECAUTIONS**, **Personal Protective Equipment** section of this label.

At least two fumigant handlers must be present at all times to monitor one another.

# APPLICATION BLOCK PERIOD AND NOTIFICATION

#### **Application Block Period**

Entry into the application block by any person (other than PPE-equipped handlers, emergency personnel, and local, provincial, or federal officials performing inspection, sampling, or other similar official duties) is PROHIBITED during the Application Block Period.

The Application Block Period begins at the start of the application and expires a minimum of 5 days after application is complete, as specified in Table 1.

**DO NOT** allow entry into the application block by unprotected persons until the air concentration level of methyl bromide is measured to be less than 3 ppm.

Table	e 1 Required A	pplicati	on Block Period follow	ing soil fumigation	
IF	Tarps are not	AND	Tarps are not	THE	5 days after

perforated within 14 days after	removed for at least 14 days after	APPLICATION BLOCK PERIOD	application is complete
application	application	EXPIRES	Ĩ
Tarps are perforated within 14 days after application	Tarps are not removed for at least 14 days after application Tarps are removed within 14 days of application		48 hours after tarp perforation is complete (minimum 7 days <sup>a</sup> ) after tarp perforation and removal is complete (minimum 5 days)

a Unless tarps were perforated or removed earlier than 5 days following application based on weather conditions (See **Tarp Perforation and/or Removal** section).

#### **Notification**

The applicator must verbally warn workers of the application. Fumigant Application signs must be posted on all entrances of the application block.

Fumigant Application signs must conform to the following requirements:

- The printed side of the sign must face away from the treated area toward areas from which people can approach.
- Signs must be clearly legible during entire posting period. The sign must be at least 35 cm by 25 cm in size, and made of substantial material that can be expected to withstand adverse weather conditions.
- Signs must be posted prior to the start of the application (but no sooner than 24 hours prior to application) and remain posted for the duration of the Application Block Period.
- Signs must be removed within 3 days after the end of the Application Block Period.
- The applicator is responsible for ensuring the Fumigant Application signs are removed.

The signs must contain the following information in English and French:

- The "skull and crossbones" symbol
- "DANGER" (letters must be at least 7 cm in height)
- "Area under fumigation, DO NOT ENTER"
- "Chloropicrin and Methyl Bromide Fumigant in USE"
- The date and time of fumigation
- The date and time the Application Block Period is over
- The name of the product, Terr-O-Gas® 67
- Name, address, and telephone number of the applicator

# **RESPIRATORY PROTECTION AND STOP WORK TRIGGERS**

The procedures outlined in Table 2 must be followed to determine whether an air-purifying respirator is required, or if operations must cease.

The respiratory protection and stop work triggers outlined in Table 2 apply to anyone present in the application block from the start of the application until the Application Block Period expires, or in the buffer zone during the Buffer Zone Period, including emergency personnel, and local, provincial or federal officials.

1.	If at any time any handler experiences sonsory	Then EITHER:
1.	If at any time any handler experiences <b>sensory</b>	
	irritation (tearing, burning of the eyes or	An <u>air-purifying respirator</u> must be worn by all
	nose), when not wearing a respirator:	handlers who remain in the application block
		and surrounding buffer zone, and <u>air monitoring</u>
		samples for chloropicrin must be collected at
		least every 2 hours in the breathing zone of a
		handler performing a representative handling
		task.
		OR
		Operations must cease and handlers not wearing
		an air-purifying respirator must leave the
		application block and surrounding buffer zone
	Handlers can remay requiretors or require	
	Handlers can remove respirators or resume	The concentration of methyl bromide is
	operations provided that:	determined to be less than 3 ppm;
		Two consecutive breathing-zone samples taken
		at the handling site at least 15 minutes apart
		show that levels of chloropicrin have decreased
		to less than 0.15 ppm at the location where the
		irritation is first experienced, and
		Handlers do not experience sensory irritation.
2.	If at any time any handler experiences <b>sensory</b>	Operations must cease and handlers must leave
	irritation when wearing a respirator, OR an	the application block and surrounding buffer
	air sample is greater than or equal to 1.5 ppm	zone
	chloropicrin	
	Handlers can resume work activities with air-	Two consecutive breathing zone samples for
	purifying respirators provided that:	chloropicrin taken at least 15 minutes apart are

 Table 2
 Respiratory Protection and Stop Work Triggers

	less than 1.5 ppm at the location where irritation
	was first experienced,
	Handlers do not experience sensory irritation
	while wearing the air-purifying respirator,
	Respirator cartridges/canisters have been
	changed, and
	Air monitoring samples must be collected at
	least every 2 hours in the breathing zone of a
	handler performing a representative handling
	task continue to be less than 1.5 ppm.
Handlers can resume work activities without	The concentration of methyl bromide is
<u>air-purifying respirators</u> provided that:	determined to be less than 3 ppm;
	Two consecutive breathing zone samples for
	chloropicrin taken at the handling site at least 15
	minutes apart show levels of chloropicrin have
	decreased to less than 0.15 ppm at the location
	where the irritation was first experienced, and
	Handlers do not experience sensory irritation.
	* J

## FUMIGANT AIR MONITORING

When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as a colorimetric device (for example, Matheson-Kitagawa, Draeger, or Sensidyne) must be used. The devices must have a sensitivity of at least 0.15 ppm for chloropicrin.

When breathing zone samples are required, they must be taken outside respiratory protection equipment and within a 25 cm radius of the handler's nose and mouth.

When air monitoring samples must be collected in the breathing zone of a handler performing a representative task, the locations and handler activities sampled must represent the exposure occurring for each handler present in the application block.

# TARP PERFORATION AND/OR REMOVAL

Tarps must be perforated (cut, punched, poked, or sliced) by mechanical methods, except for the following situations (where tarps can be perforated manually):

- 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 0.4 hectare or less
- During flood prevention activities

Tarps must not be perforated or removed 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, as follows:

- *Early tarp perforation following bedded applications*: Tarp perforation is allowed before the 5 days (120 hours) have elapsed for flood prevention.
- *Early tarp removal following broadcast applications*: 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, for example, tarps blowing into power lines and onto roads. A *compromised tarp* is a tarp that due to an adverse weather condition is no longer performing its intended function and is creating a hazard.
- If tarps are perforated within 14 days after the application is complete, tarp removal must not begin until at least 2 hours after tarp perforation is complete.
- If tarps are not perforated or removed within 14 days after application is complete, planting or transplanting may take place while the tarps are being perforated.

#### Additional Requirements for Broadcast Applications:

- Each tarp panel must be perforated
- Tarp perforation must be completed before noon.
- Tarps must not be perforated if rainfall is expected within 12 hours.

# MANDATORY GOOD AGRICULTURAL PRACTICES

The following Good Agricultural Practices must be followed during all fumigant applications.

## Tarps

- A written tarp plan must be developed and included in the Fumigation Management Plan.
- Tarps must be installed immediately after the fumigant is applied to the soil.
- Once a tarp is perforated, the application is no longer considered tarped.
- Tarps must be checked regularly for damage, tears, and other problems.

## Weather Conditions

The weather forecast must be checked by the applicator:

- on the day of, but prior to the start of the application, and
- if the application takes longer than 24 hours, on a daily basis.

DO NOT apply if light wind conditions (< 3 km/hr) are forecast to persist for more than 18 consecutive hours from the time the application starts until 48 hours after the application is complete.

DO NOT apply when a temperature inversion is occurring, or is predicted to occur within 48 hours after application is complete, as fumigant vapours may drift. Temperature inversions are weather conditions in which warm air sits above and traps cooler air near the Earth's surface. The resulting calm air masses at ground level traps vapour in a confined area and 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. Temperature inversions are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or smog. Their presence can also be identified by smoke from a ground source that flattens out below a ceiling layer and moves laterally in a concentrated cloud.

Apply only when the potential for drift to areas of human habitation or areas of human activity (such as houses, cottages, schools and recreational areas) is minimal. Take into account wind speed, wind direction, temperature, application equipment and sprayer settings.

#### Soil Preparation

Soil must be properly prepared and, at the surface, generally be free of clods. The area to be fumigated must be tilled to a depth of 13 to 20 cm.

Plow or otherwise work soil to a fine tilth. Add fertilizer, manure or compost, work in well.

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

Trash pulled by the shanks to the end of the field must be covered with tarp or soil following application.

#### Soil Temperature

Do not fumigate when soil temperature is below 10°C. The soil temperature at the depth of injection must not exceed 32 °C at the beginning of the application. If air temperatures have been above 37 °C in any of the three days prior to application, then soil temperature must be measured and recorded in the Fumigation Management Plan. Record temperature at the application depth or 30 cm, whichever is shallower.

#### Soil Sealing

Seal fumigant with a drag or cultipacker immediately behind chisels. Cover with a tarp. The use of a tarp does not eliminate the need to minimize chisel traces prior to application of the tarp, such as by using a nobel plow or other injections shank that disrupts the chisel traces. <u>Soil Moisture</u>

Measure soil moisture at a depth of 20 cm at either end of the field, no more than 48 hours prior to the start of the application. The soil must be moist 20 cm below the surface. The amount of moisture needed in this zone will vary according to the soil type. Surface soil general dries rapidly and must not be considered in this determination. Do not fumigate when soil is dry or excessively wet.

Soil moisture must be determined by one of the following methods:

- The United States Department of Agriculture (USDA) Feel and Appearance Method for testing (See Table 3 below), or
- An instrument, such as a tensiometer.

Available water capacity must be equal or greater than 50%. If there is less than 50% available water capacity 20 cm below the surface, the soil moisture must be adjusted. If irrigation is not available and there is adequate soil moisture below 20 cm, soil moisture can be adjusted by discing or plowing before the start of the application. To conserve existing soil moisture, pretreatment irrigation or pretreatment tillage should be done as close to the time of application as possible.

Аррисацон	
Soil Texture	Soil Properties
Coarse textured soils	• soil is moist enough to form a weak ball with
(fine sand and loamy fine sand)	loose and clustered sand grains on fingers
	darkened color
	<ul> <li>moderate water staining on fingers</li> </ul>
	will not ribbon
Moderately coarse textured soils	• soil is moist enough to form a ball with defined
(sandy loam and fine sandy loam)	finger marks
	<ul> <li>very light soil/water staining on fingers</li> </ul>
	darkened color
	• will not stick
Medium textured soils	• soil is moist enough to form a ball
(sandy clay loam, loam, and silt	<ul> <li>very light staining on fingers</li> </ul>
loam)	darkened color
	• pliable
	• forms a weak ribbon between the thumb and
	forefinger
Fine textured soils	• soil is moist enough to form a smooth ball with
(clay, clay loam, and silty clay	defined finger marks
loam)	<ul> <li>light soil/water staining on fingers</li> </ul>
	ribbons between thumb and forefinger

Table 3	Overview of the USDA Feel and Appearance Method for Estimating Soil Moisture as Appropriate for Fumigant
	Application

NOTE: 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

The injection point must be a minimum of 20 cm from the nearest final soil/air interface.

#### Prevention of End Row Spillage

Do not apply or allow fumigant to spill onto the soil surface. For example, this can be achieved by each injection line either having a check valve located as close as possible to the final injection point, or by draining/purging the line of any remaining fumigant prior to lifting injection shanks from the ground.

## METHOD OF APPLICATION

For Broadcast: Apply with chisels spaced 30 cm apart.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests. DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes. DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. DO NOT apply near buildings inhabited by human or livestock or in areas adjacent to fields where valuable crops are growing.

For details on soil depth and sealing, refer to Mandatory Good Agricultural Practices and Tarp Perforation and/or Removal sections in this label.

Сгор	Application Method	Application Rate (kg product/ha)
Ornamental and Forest Nurseries:	Tarped, banded application Tarped, broadcast application	500 to 908 500 to 975
Tomatoes:	Tarped, banded or broadcast application	250 to 365

#### Table 4. RECOMMENDED APPLICATION RATES – PREPLANT SOIL FUMIGANT

For banded (strip/bedded) applications, the broadcast equivalent application rate must be calculated to determine the buffer zone distance required by this label. The broadcast equivalent application rate relates to the rate of fumigant applied within the entire perimeter of the application block. Refer to **Calculating the Broadcast Equivalent Application Rate** section in this label.

This treatment will control weed seedlings and most seeds under adequate moisture conditions. In some cases adequate control of nutsedge and other hard seeded plants such as morning glory, purslane, mallows, etc., may not be achieved.

Funigation with methyl bromide sometimes slows the rate of nitrification. Certain ammonia-sensitive plants may suffer growth inhibition or stand reduction when planted in funigated soils containing high amounts of ammonia nitrogen. To lessen this hazard, at least half of the nitrogen fertilizer added immediately before or soon after funigation should be in form of nitrate nitrogen. The hazard may also be reduced by delaying planting for several months after funigation.

Aerate soil for 2 weeks before planting. If odours persist, disc or plow the soil to assist aeration.

## SAFETY GERMINATION TEST

The following test can be carried out to establish when it is safe to use any soil following treatment.

Take a minimum of six random samples from the treated area. For large areas, take 15 samples for each hectare. These samples must be representative of the whole area and the depth of soil treated. Where the area treated is large, the samples may be bulked, then well-mixed and re-sampled. Samples should be taken down to the depth at which incorporation was made.

Put the soil into glass jars or similar non-porous containers. These should be about half filled. Level the soil, moisten if necessary, add moistened cotton pads or filter paper and sprinkle with cress seed. Carefully seal the top of the jars with screw tops or polyethylene held on with rubber band. Prepare a similar test sample using untreated soil. Place the jars in a warm room where germination should occur in approximately 48 hours, at which time they should be checked. Residues of the product are still present if there is any suppression of germination or discolouration of sprouting cress in the treated soil when compared with the untreated sample. In that case, the time before planting should be extended for a further few days. An additional aeration may help speed up removal of the gases from the soil.

Repeat the Safety Germination Test until the cress seeds germinate evenly in all the jars. It is then safe to plant in the soil.

# **BUFFER ZONE REQUIREMENTS**

A buffer zone must be established for every fumigant application.

A buffer zone is an area established around the perimeter of each application block. The following describes the buffer zone requirements:

• The buffer zone must extend outward from the edge of the application block perimeter equally in all directions.

- The Buffer Zone Period begins at the start of the application and lasts for a minimum of 48 hours after the application is complete.
- Only fumigant handlers, emergency personnel, and local, provincial, or federal officials performing inspection, sampling, or other similar official duties may be in the buffer zone during the Buffer Zone Period.
- All non-handlers, including field workers, nearby residents, pedestrians, and other bystanders, must be excluded from the buffer zone during the Buffer Zone Period except for transit (i.e. vehicular and bicycle traffic) through the buffer zone.

## Buffer zone Proximity

Before the start of the application, the applicator must determine whether the buffer zone will overlap any other 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 a minimum of 12 hours have elapsed from the time the earlier application(s) is complete until the start of the latter application.

Buffer zones must not include buildings used for storage (such as sheds, barns, garages) UNLESS these building are not occupied during the Buffer Zone Period and do not share a common wall with an occupied structure.

Buffer zones must not include residential areas (for example, employee housing, private property), buildings (for example, commercial, industrial), outdoor residential areas (for example, lawns, gardens, play areas) and other areas that people may occupy, UNLESS:

- 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
- Re-entry by occupants and other non-handlers must not occur until:
  - The Buffer Zone Period has ended, and
  - No sensory irritation (tearing, burning of the eyes or nose) is experienced upon re-entry.

Buffer zones must not include agricultural areas owned/operated by persons other than the owner/operator of the application block, UNLESS:

- The owner/operator of the application block can ensure that the buffer zone will not overlap with a buffer zone from any adjacent property owners, except as provided for above, and
- The owner of the other property provides written agreement 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 public or private roadways and rights of way UNLESS:

- The area is not occupied during the Buffer Zone Period, and
- Entry by non-handlers is prohibited during the Buffer Zone Period, except for transit (i.e. vehicular and bicycle traffic) through the buffer zone.

IMPORTANT: Buffer zones are not permitted to include bus stops or other locations where persons wait for public transit.

Buffer zones must not include any other publicly owned and/or operated areas such as parks, sidewalks, permanent walking paths, playgrounds and athletic fields UNLESS:

- The area is not occupied during the Buffer Zone Period,
- Entry by non-handlers is prohibited during the Buffer Zone Period, and
- Written permission to include the public area in the buffer zone is granted by the appropriate provincial/territorial and/or local authorities responsible for management and operation of the area.

#### Restrictions for Difficult to Evacuate Sites

Difficult-to-evacuate sites include schools (preschool to grade 12), provincial/territorial-licensed daycare centers, nursing homes, assisted living facilities, hospitals, in-patient clinics, and prisons.

No fumigant application with a buffer zone greater than 90 metres is permitted within 400 metres of difficult to evacuate sites unless the site is not occupied by children, students (preschool to grade 12), patients, or prisoners during the application and the 36-hour period following the end of application.

No fumigant application with a buffer zone of 90 metres or less is permitted within 200 metres of the difficult to evacuate sites unless the site is not occupied during the application, by children, students (preschool to grade 12), patients, or prisoners and the 36-hour period following the end of application.

## Posting Requirements for Buffer Zones

Posting of Buffer Zone signs 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 point 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 applicator must ensure compliance with local/provincial laws and regulations.

Buffer Zone signs must conform to the following requirements:

- The printed side of the sign must face away from the application block toward areas from which people could approach.
- Signs must be clearly legible during entire posting period. The sign must be at least 35 cm by 25 cm in size, and made of substantial material that can be expected to withstand adverse weather conditions.
- Signs must be posted prior to the start of the application (but no sooner than 24 hours prior to 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.

• The applicator is responsible for ensuring the Buffer Zone signs are removed.

The Buffer Zone signs must contain the following information in English and French:

- The "Do not walk" symbol
- "DO NOT ENTER except for vehicular or bicycle traffic" (For "DO NOT ENTER", letters must be at least 7 cm in height.)
- "Methyl Bromide and Chloropicrin, Terr-O-Gas® 67 Fumigant BUFFER ZONE"
- The date and time the Buffer Zone Period is over
- The name, address, and telephone number of the applicator

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

# CALCULATING THE BROADCAST EQUIVALENT APPLICATION RATE

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

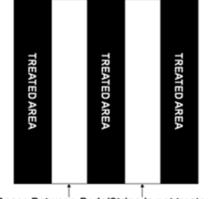
- kilograms of product per treated hectare
- strip or bed bottom width (cm)
- center-to-center row spacing (cm)
- application block size (hectares)

Kilograms of product **per treated hectare** 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 0.6ha 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 area within the perimeter of the fumigated portion of a field (including furrows, irrigation ditches, and roadways). The perimeter of the application block is the border that connects the outermost edges of total area treated with the fumigant product.

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

# Figure 1. Bedded/Strip Application (1 hectare application block)



Space Between Beds/Strips is not treated

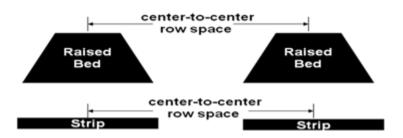
	strip or bed bo	ottom width	kg product/ha
Broadcast equivalent rate	(cm)	)	01
(kilograms product/ha)	center-to-center	1 0	applied in the strip or bed
	(em)	/	

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

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

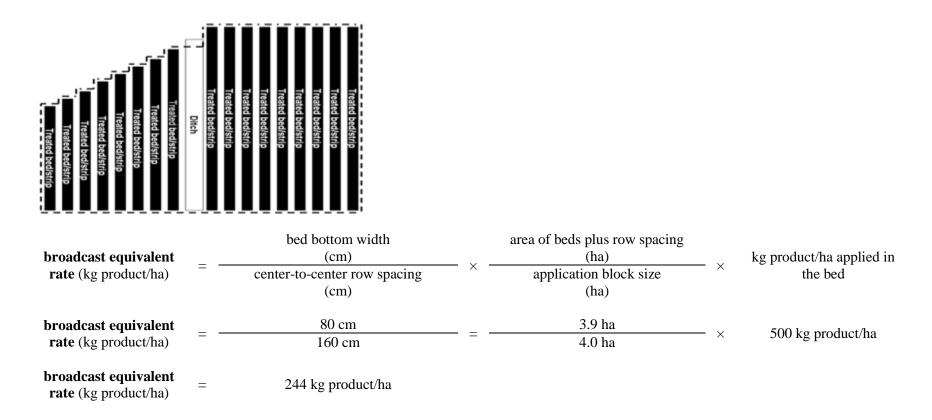
If there are any ditches, waterways, drive rows and other areas that are not fumigated that are in the application block, multiply the above broadcast equivalent equation by: (total area of strips or beds + row spacing)/(application block size). A sample calculation is provided below.

Figure 2. Center Row Spacing



# **Sample broadcast equivalent rate calculation** Assumptions:

- Application method is shank bedded
- Bed width is 80 cm (measured at the bottom of bed)
- Center-to-center row spacing is 160 cm
- 500 kilograms of product per treated hectares is applied in the beds
- Total application block size is 4 hectares
- Ditch in the middle of application block is 0.1 hectare
- Area of beds plus row spacing is 3.9 hectares



#### **BUFFER ZONE DISTANCES**

Buffer zone distances must be calculated based on the buffer zone look-up tables provided on this label, using the broadcast equivalent application rate, See **Calculating the Broadcast Equivalent Application Rate** section) and the size of the application block. Where applicable, round up to the nearest block size. Applications are prohibited for rates and block sizes that exceed what is presented in the buffer zone tables.

Eight (8) metres is the minimum buffer distance regardless of site-specific application parameters.

If the buffer zone distance, after applying all applicable buffer zone credits (see Buffer Zone Credits section ), is greater than 0.8 km (800 metres) then the application is prohibited.

# **Buffer Zone Look-Up Tables**

Broadcast           Equivalent           Application           Rate           Kg prod/ha           ≤ 167           8           168-182           8           183-198           8           199-213           8 <t< th=""><th>3 8 8 8 8 8 8 8 8</th><th><b>4</b> 8 8 8 8</th><th><b>6</b> 8 8 8</th><th><b>8</b> 8</th><th><b>10</b> 8</th><th><b>12</b></th><th>14</th><th>licatio</th><th>20</th><th>24</th><th>28</th><th>32</th><th></th><th>_</th><th></th><th></th><th></th><th></th><th></th><th></th></t<>	3 8 8 8 8 8 8 8 8	<b>4</b> 8 8 8 8	<b>6</b> 8 8 8	<b>8</b> 8	<b>10</b> 8	<b>12</b>	14	licatio	20	24	28	32		_						
Application Rate         0.5         1         2           Kg prod/ha         -         <	8 8 8 8 8 8 8	8 8 8	8	8	-		14	16	20	24	20	22								
Rate         0.5         1         2           Kg prod/ha         -         -         -         -           ≤ 167         8         8         8         8           168-182         8         8         8         8           183-198         8         8         8         8           199-213         8         8         8         8	8 8 8 8 8 8 8	8 8 8	8	8	-		14	16	20	24	20	22								
Kg prod/ha            ≤ 167         8         8         8           168-182         8         8         8           183-198         8         8         8           199-213         8         8         8	8 8 8 8 8	8 8	8	_	8	0					20	32	36	40	44	48	52	56	60	64
≤ 167         8         8         8           168-182         8         8         8           183-198         8         8         8           199-213         8         8         8	8 8 8 8 8	8 8	8	_	8	0														
168-182         8         8         8           183-198         8         8         8           199-213         8         8         8	8 8 8 8 8	8 8	8	_	0		8	8	8	8	8	8	8	8	8	8	10	10	11	11
183-198         8         8         8           199-213         8         8         8	8 8 8	8	-		8	8	8	8	8	8	8	8	8	8	10	11	10	13	14	15
<b>199-213</b> 8 8 8	8	-		8	8	8	8	8	8	8	10	10	10	11	13	14	15	17	18	19
	8		8	8	8	8	8	8	8	8	10	11	16	17	19	20	22	24	25	27
	-	8	8	8	8	8	8	8	8	8	11	14	19	23	26	31	34	36	39	41
<b>229-244</b> 8 8 8	8	8	8	8	8	8	8	8	8	8	12	16	23	31	36	40	43	47	50	53
<b>245-259</b> 8 8 8	8	8	8	8	8	10	10	11	15	18	22	26	34	39	42	46	50	54	58	61
<b>260-274</b> 8 8 8	8	8	8	8	10	10	12	15	21	27	32	36	40	45	49	54	58	63	67	72
<b>275-305</b> 8 8 8	8	8	8	8	10	11	15	18	28	37	41	46	50	55	60	64	70	75	80	85
<b>306-320</b> 8 8 8	8	8	10	11	13	16	20	25	35	46	51	57	60	66	71	76	83	89	95	102
<b>321-335</b> 8 8 8	8	8	12	15	20	25	29	33	44	54	61	68	73	79	85	91	99	107	114	122
<b>336-351</b> 8 8 8	8	8	14	20	27	34	38	42	52	62	71	79	85	93	100	106	115	124	133	142
<b>352-366</b> 8 8 8	8	8	17	25	34	43	47	51	61	71	81	90	100	109	117	125	135	145	156	166
<b>367-381</b> 8 8 10	10	10	21	31	40	48	52	57	67	78	86	94	109	119	128	136	148	159	170	182
<b>382-397</b> 8 8 10	11	12	25	37	45	54	58	62	73	85	91	97	119	130	139	148	161	173	185	198
<b>398-427</b> 8 8 11		15	29	43	51	59	63	68	80	92	96	101	128	140	151	160	174	187	200	213
<b>428-442</b> 8 8 12	16	18	33	47	56	64	69	73	86	99	104	110	138	151	162	172	186	201	215	229
<b>443-458</b> 8 8 14	_	22	36	50	60	70	75	79	93	106	115	124	147	161	173	184	199	215	230	245
<b>459-473</b> 8 8 15		27	40	53	64	75	80	85	99	114	125	137	157	171	184	196	212	228	245	261
<b>474-488</b> 8 8 17	-	31	43	55	68	81	86	90	106	121	136	151	167	182	196	208	225	242	260	277
<b>489-504</b> 10 11 21	31	35	47	60	73	86	92	98	114	130	145	161	176	192	207	220	238	257	275	293
<b>505-519</b> 10 13 25		40	52	64	78	92	98	105	122	138	154	170	186	203	218	233	252	271	291	310
<b>520-534</b> 11 16 29 <b>535-549</b> 11 18 32	_	44	56	68 72	83	97	105	113	130	147	163	179 188	196	213 224	230	245 257	265 279	286	306 322	326 343
535-549         11         18         32           550-580         12         19         33		47 48	60 62	72	87 90	101 104	110 114	119 125	137 143	155 162	171 179	188	206 216	224	241 252	257	279	300 315	322	343 360
<b>581-595</b> 12 21 35	_	48 50	62 64	75	90 93	104	114	125	143	162	179	206	216	234	252	270	306	315	353	376
<b>596-611</b> 13 22 36		50	66	81	95 96	107	119	130	150	176	196	200	225	245	205	295	319	344	368	393
<b>612-626</b> 13 22 37		51	68	84	90 99	110	125	130	161	170	201	215	235	255	275	303	328	353	379	404
<b>627-641</b> 13 23 38		54	70	86	101	117	130	140	165	181	201	221	242	202	203	311	337	363	389	415
<b>642-656</b> 14 24 39		55	72	88	101	120	134	148	169	191	212	234	255	277	298	320	346	373	400	426
<b>657-672</b> 14 24 40		57	74	90	107	123	137	152	174	196	218	240	262	284	306	328	356	383	410	437
<b>673-687</b> 15 25 41	-	58	75	93	110	126	141	156	178	201	223	246	269	291	314	337	365	393	421	449
<b>688-718</b> 15 25 42	-	59	77	95	112	129	144	159	182	206	229	252	275	299	322	345	374	402	431	460

 Table 5
 Buffer Zone Distances (Metres) for Strip Tarped Applications

719-733	15	26	43	55	61	79	97	115	132	148	163	187	211	235	258	282	306	330	353	383	412	442	471
734-748	15	27	44	56	62	81	100	118	135	151	167	192	216	240	264	289	313	338	362	392	422	452	482
749-764	16	27	45	57	64	83	102	120	139	155	171	196	221	246	271	296	320	345	370	401	432	463	494
765-779	16	28	46	59	65	85	104	123	142	158	175	200	226	251	277	302	328	353	379	410	442	473	505
780-794	17	29	47	60	67	87	107	126	145	162	179	205	231	257	283	309	335	361	387	419	452	484	516
795-809	17	29	48	61	68	89	109	129	148	165	183	209	236	262	289	316	342	369	395	428	461	494	527
810-825	17	30	49	63	69	90	111	131	151	169	186	214	241	268	295	322	350	377	404	437	471	505	538
826-855	18	30	50	64	71	92	114	134	154	172	190	218	246	274	301	329	357	385	412	447	481	515	550
856-871	18	31	51	65	72	94	116	137	157	176	194	223	251	279	307	336	364	392	421	456	491	526	561
872-886	18	32	53	67	74	96	118	139	161	179	198	227	256	285	314	342	371	400	429	465	501	536	572
887-901	18	32	54	68	75	98	121	142	164	183	202	232	261	290	320	349	379	408	437	474	510	547	583
902-908	19	33	54	69	77	100	123	145	167	186	206	236	266	296	326	356	386	416	446	483	520	557	594

Table 6 Buffer Zone Distances (Metres) for Bed Tarped Applications

Broadcast	Application Block Size (hectares)																						
Equivalent	0.5	1	2	3	4	6	8	10	12	14	16	20	24	28	32	36	40	44	48	52	56	60	64
Application																							
Rate																							
Kg prod/ha																							
≤ 259	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	10	11	13	14
260-274	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	11	13	16	19	20	22	23	25
275-305	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	13	19	24	29	32	34	37	39
306-320	8	8	8	8	8	8	8	8	8	8	8	8	8	13	17	23	29	37	45	48	52	56	59
321-335	8	8	8	8	8	8	8	8	8	8	8	8	8	17	26	33	39	49	60	65	70	75	80
336-351	8	8	8	8	8	8	8	8	8	8	8	14	20	29	38	44	50	59	68	74	80	85	91
352-366	8	8	8	8	8	8	8	8	8	8	8	20	31	40	49	55	61	69	77	83	89	96	102
367-381	8	8	8	8	8	8	8	8	8	14	20	42	48	56	65	71	77	87	97	105	113	121	129
382-397	8	8	8	8	8	8	8	8	13	22	29	45	52	62	73	79	84	95	106	114	123	132	141
398-427	8	8	8	8	8	8	8	8	19	29	39	48	55	68	81	87	92	103	115	124	134	143	153
428-442	8	8	8	8	8	8	8	17	24	34	44	58	65	77	90	97	103	119	134	145	156	167	178
443-458	8	8	8	8	8	8	8	26	29	39	49	68	74	86	98	106	115	134	153	166	178	191	204
459-473	8	8	8	8	8	8	16	32	35	44	55	71	77	92	106	114	122	141	161	174	187	201	214
474-488	8	8	8	8	8	8	23	37	40	49	61	74	81	98	115	122	130	149	168	182	196	210	224
489-504	8	8	8	8	8	14	31	42	49	54	68	84	92	107	122	134	145	161	177	192	207	221	236
505-519	8	8	8	8	8	22	37	45	55	61	76	91	100	116	132	143	153	170	186	202	217	233	248
520-534	8	8	8	8	8	29	43	49	60	69	84	98	107	125	142	151	161	178	196	212	228	244	261
535-549	8	8	8	8	8	33	47	55	65	74	87	101	114	131	148	160	172	187	202	219	236	253	270
550-580	8	8	8	8	8	37	51	60	71	80	89	104	121	137	153	168	183	196	209	227	244	261	279
581-595	8	8	11	13	14	39	53	65	75	85	95	110	125	145	164	180	195	207	219	237	256	274	292

596-611	8	8	13	18	20	42	55	71	80	90	101	116	130	153	176	191	206	218	229	248	267	286	305
612-626	8	8	13	18	21	43	57	73	82	93	104	120	134	157	181	196	212	224	236	255	275	294	314
627-641	8	8	14	19	21	44	58	75	84	96	107	123	137	162	186	202	218	230	242	262	282	303	323
642-656	8	8	14	19	22	45	60	77	87	98	110	126	141	166	191	207	224	236	249	269	290	311	331
657-672	8	8	14	20	23	46	62	79	89	101	113	130	145	170	196	213	230	242	255	276	298	319	340
673-687	8	8	15	20	23	48	63	81	91	103	115	133	149	175	201	218	236	249	262	284	305	327	349
688-718	8	10	15	21	24	49	65	83	93	106	118	136	152	179	206	224	242	255	268	291	313	335	358
719-733	8	10	15	21	24	50	66	85	96	108	121	139	156	183	211	229	247	261	275	298	321	343	366
734-748	8	10	16	22	25	51	68	87	98	111	124	143	160	188	216	235	253	267	281	305	328	352	375
749-764	8	10	16	22	25	52	69	89	100	114	127	146	163	192	221	240	259	274	288	312	336	360	384
765-779	8	10	17	23	26	53	71	91	102	116	130	149	167	196	226	245	265	280	294	319	343	368	392
780-794	8	10	17	23	27	55	73	93	105	119	133	153	171	201	231	251	271	286	301	326	351	376	401
795-809	8	10	17	24	27	56	74	95	107	121	136	156	174	205	236	256	277	292	307	333	359	384	410
810-825	8	10	18	24	28	57	76	97	109	124	138	159	178	210	241	262	283	298	314	340	366	392	419
826-855	8	10	18	25	28	58	77	99	111	126	141	163	182	214	246	267	289	305	321	347	374	401	427
856-871	8	10	18	25	29	59	79	101	114	129	144	166	186	218	251	273	294	311	327	354	381	409	436
872-886	8	11	19	26	29	60	80	103	116	132	147	169	189	223	256	278	300	317	334	361	389	417	445
887-901	8	11	19	26	30	62	82	105	118	134	150	173	193	227	261	284	306	323	340	368	397	425	453
902-908	8	11	19	27	31	63	84	107	121	137	153	176	197	231	266	289	312	329	347	376	404	433	462

 Table 7
 Buffer Zone Distances (Metres) for Broadcast Tarped Applications

Broadcast										Applic	ation B	lock Si	ze (hec	tare)									
Application Rate Kg prod/ha	0.5	1	2	3	4	6	8	10	12	14	16	20	24	28	32	36	40	44	48	52	56	60	64
250-305	8	8	8	8	8	8	8	8	8	8	10	10	12	13	14	14	14	16	17	19	20	21	23
306-320	8	8	8	8	8	8	8	8	8	10	10	12	15	17	19	20	20	22	22	24	25	27	29
321-335	8	8	8	8	8	8	8	8	8	10	10	15	19	22	25	26	27	29	29	32	34	37	39
336-351	8	8	8	8	8	8	8	8	8	10	11	17	23	26	30	34	36	37	39	42	45	48	51
352-366	8	8	8	8	8	8	8	8	8	10	11	19	26	31	36	40	45	49	52	57	61	65	70
367-381	8	8	8	8	8	10	11	11	12	14	16	24	32	37	42	46	51	55	58	63	68	73	78
382-397	8	8	8	8	8	11	13	15	16	19	21	29	38	43	49	52	57	61	65	70	75	81	86
398-427	8	8	8	8	8	12	16	18	20	23	26	35	43	49	55	60	66	71	74	80	86	92	98
428-442	8	8	8	8	8	13	19	21	24	27	31	40	49	55	62	68	74	80	84	91	98	105	112
443-458	8	8	8	8	8	15	21	24	28	32	36	45	55	61	68	74	80	86	91	99	106	114	121
459-473	8	8	8	8	8	16	24	28	32	36	41	51	60	68	75	82	89	95	101	109	118	126	135
474-488	8	8	8	8	8	17	26	31	36	41	46	56	66	74	81	89	97	103	109	118	127	136	145
489-504	8	8	10	10	11	20	29	35	40	45	51	61	71	79	88	95	103	110	116	126	136	145	155
505-519	8	8	10	12	13	23	32	38	44	50	55	65	76	85	94	103	111	119	127	138	148	159	169

	-	-																					
520-534	8	8	11	14	16	25	35	42	49	54	59	70	81	91	100	109	118	127	135	146	157	168	179
535-549	8	8	12	16	19	28	38	45	53	58	64	75	86	96	107	117	127	138	147	159	171	183	196
550-580	8	8	13	19	21	31	41	49	57	63	68	80	91	102	113	124	134	145	154	167	180	193	205
581-595	8	8	14	21	24	34	43	53	62	67	72	84	96	108	119	131	142	154	164	177	191	205	218
596-611	8	8	15	23	26	36	46	56	66	71	77	89	101	113	125	138	150	162	173	187	201	216	230
612-626	10	10	18	26	30	40	50	60	70	76	83	96	108	120	133	145	157	169	180	195	210	225	240
627-641	10	11	21	29	33	43	53	63	73	81	89	102	115	128	140	153	165	177	188	203	219	234	250
642-656	10	13	23	32	36	46	57	67	76	86	96	109	122	135	148	160	172	184	195	211	227	244	260
657-672	10	15	26	35	39	50	60	70	80	91	102	115	129	142	155	167	179	192	202	219	236	253	270
673-687	11	16	28	38	43	53	64	74	83	96	108	122	136	149	162	175	187	199	210	227	245	262	279
688-718	11	18	31	41	46	57	67	77	87	101	115	129	143	156	170	182	194	206	217	235	253	271	289
719-733	12	20	34	44	49	60	71	81	90	106	121	135	150	164	177	189	202	214	225	243	262	281	299
734-748	12	21	36	46	51	62	73	84	95	110	125	140	154	168	182	194	206	218	229	248	267	286	305
749-764	13	23	38	48	53	65	76	88	99	114	129	144	159	172	186	198	210	223	233	253	272	291	311
765-779	14	24	40	50	54	67	79	91	103	118	133	148	163	177	190	203	215	227	238	257	277	297	317
780-794	14	26	42	51	56	69	82	95	108	123	137	152	167	181	195	207	219	231	242	262	282	302	322
795-809	15	28	44	53	58	71	85	98	112	127	142	157	172	185	199	211	223	236	246	267	287	308	328
810-825	15	29	46	55	60	74	88	102	117	131	146	161	176	190	203	216	228	240	251	271	292	313	334
826-855	16	31	48	57	61	76	90	106	121	135	150	165	180	194	208	220	232	244	255	276	297	319	340
856-871	16	32	49	58	63	78	93	109	125	139	152	169	185	200	216	228	241	253	263	285	307	329	351
872-886	16	33	50	59	64	80	95	112	128	142	155	172	189	207	225	237	249	261	272	295	317	340	362
887-901	17	33	51	61	65	81	98	115	132	145	158	176	193	213	233	245	258	270	280	304	327	350	374
902-916	17	34	52	62	67	83	100	118	136	148	160	179	198	220	242	254	266	278	289	313	337	361	385
917-932	17	35	54	63	68	85	102	121	139	151	163	183	202	226	250	262	275	287	297	322	347	372	396
933-947	17	36	55	64	69	87	105	124	143	154	166	186	206	233	259	271	283	295	306	331	357	382	408
948-962	18	37	56	66	71	89	107	127	147	157	168	189	211	239	267	279	292	304	314	341	367	393	419
963-975	18	38	58	68	73	92	111	129	148	161	174	196	218	244	269	281	293	306	316	343	369	395	422

#### **BUFFER ZONE CREDITS**

The buffer zone distances (from the buffer zone look-up tables) for chloropicrin applications can be reduced by the percentages listed in Table 8, if the conditions outlined below are met. Credits may be added, but cannot exceed 80%.

IMPORTANT: The buffer zone distance is a minimum of 8 metres regardless of the buffer zone credits available.

**Table 8 Buffer Zone Credits and Condition** 

Credit Type	Buffer Zone Distance	Condition						
	Reduction (%)							
Tarp	20-60 %	See <u>www.tarpcredits.epa.gov</u> for a list of tarps that have been tested and determined by the						
		US EPA to qualify for buffer reduction credits. Only tarps listed on this website qualify for						
		buffer reduction credits.						
Potassium thiosulfate 15%		If potassium thiosulfate (KTS) is applied at a minimum rate of 335 kg/ha.						
Water seals	15%	If 0.6 to 1.3 cm of water is applied.						
Soil organic content	10%	If the organic content of the soil in the application block is $\geq 1\%-2\%$ .						
	20%	If the organic content of the soil in the application block is $>2\%-3\%$ .						
	30%	If the organic content of the soil in the application block is $>3\%$ .						
Soil temperature	10%	If the soil temperature is measured to be 10°C or less. Temperature measurements must be						
		recorded at the application depth or at a soil depth of 30 cm, whichever is shallower.						
Soil clay content	10%	If the clay content of the soil in the application block is greater than 27%.						

#### Examples of buffer calculation if a credit is applicable

If the buffer zone is 15 metres, and the application qualifies for a buffer zone reduction credit since the soil organic content is 1.5%, then the buffer zone can be reduced by 10% (i.e. reduced by 1.5 metres based on the following calculation: 15 metres – (15 metres x 10%) = 13.5 metres.

If the buffer zone is 15 metres 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 3 metres based on the following calculation: 15 metres -(15 metres x 20%) = 12 metres.

#### EMERGENCY PREPAREDNESS AND RESPONSE MEASURES

If the buffer zone is 8 metres, then the Emergency Preparedness and Response Measures are not applicable.

If any of the conditions outlined in Table 9 apply, **either** the directions for <u>Fumigant Site Monitoring</u> **or** the directions for <u>Response Information of</u> <u>Neighbours</u> must be followed:

Т	able 9 Triggers for Em	ergency Preparedness and Respo	nse M	easures	
	The Emergency	Buffer zone distance is	and	<b>Residences and businesses are</b>	

Preparedness and		located
Response Measures are triggered if	>8 to $\leq$ 30 m	Within 15 m from the outer edge of the buffer zone
	$>30 \text{ to} \le 60 \text{ m}$	Within 30 m from the outer edge of the buffer zone
	$>60 \text{ to} \le 90 \text{ m}$	Within 90 m from the outer edge of the buffer zone
	>90 m or if buffer zone overlaps another chloropicrin buffer zone	Within 90 m from the outer edge of the buffer zone

#### **Fumigation Site Monitoring**

From the start of the fumigant application until the Buffer Zone Period expires, the applicator must monitor for sensory irritation (tearing, burning of the eyes or nose) 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:

- One (1) hour before sunset,
- During the night,
- One (1) hour after sunrise, and
- During daylight hours.

Implement the emergency response plan stated in the Fumigation Management Plan immediately if a handler conducting air monitoring experiences sensory irritation.

#### **Response Information for Neighbours**

The applicator 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 no more than **4 weeks**. If the application does not occur when specified, the information must be delivered again.

The response information must include:

- The location of the application block
- The fumigant(s) applied including the active ingredient, name of the fumigant product(s), and the Product registration Number
- Contact information for the applicator and property owner/operator.
- Time period in which the fumigation is planned to take place.
- Early signs and symptoms of exposure to the fumigant(s) applied, what to do, and who to call if you believe you are being exposed (911 in most cases).

• How to find additional information about fumigants.

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

# EMERGENCY RESPONSE PLAN

The applicator must include in the Fumigation management Plan a written emergency response plan that identifies:

- Evacuation routes,
- Locations of telephones,
- Contact information for first responders,
- Local and provincial health and environment authorities, and
- Emergency procedures/responsibilities (for example, adding water to the field, repairing tarps, fixing equipment, evacuating upwind) if:
  - There is an incident,
  - Sensory irritation is experienced outside of the buffer zone, and/or
  - There are equipment/tarp/seal failure or complaints, or other emergencies.

# SPILL AND LEAK PROCEDURES

Evacuate immediate area of spill or leak. Use a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination airsupplied/SCBA respirator for entry into affected area to correct problem. Allow spill to evaporate. DO NOT permit entry into spill area by any persons without appropriate respiratory protection, until:

- the concentration of methyl bromide is determined to be less than 3 ppm,
- two consecutive breathing-zone samples taken at least 15 minutes apart show that levels of chloropicrin have decreased to less than 0.15 ppm, AND,
- no sensory irritation is experienced.

Remove leaking containers to an isolated area and cover with a polyethylene sheeting of 6 mil or greater thickness. Seal by placing the outside edges of tarpaulin in a trench and cover with soil. Tamp soil down so edges will not pull loose. Discharge the contents under the tarpaulin. Contaminated soil, water and other clean-up debris is a toxic hazardous waste. For information on the cleanup of soils, contact the provincial regulatory agency or the manufacturer.

# PESTICIDE STORAGE AND HANDLING

This product must be stored away from lodging for humans, animal quarters and normal work areas to avoid inadvertent exposure.

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

Do not contaminate water, food, or feed by storage. Store cylinders upright, secured to a rack or wall to prevent tipping. To prevent contamination, store this product away from food or feed.

Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging or sliding. Do not use rope slings, hooks, tongs or similar devices to unload cylinders.

Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured.

Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

## DISPOSAL

#### **Product Disposal:**

Pesticide wastes are toxic. Open dumping is prohibited. Do not discharge this product, or material containing this product, into natural waterways or municipal wastewater collection systems. For information on the disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

## **Container Disposal:**

When cylinder is empty, close valve by turning clockwise until hand tight, screw safety cap onto valve outlet, and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose. Follow registrant's instructions for return of empty or partially empty cylinders.

# **RETURN OF CYLINDERS:**

- 1. Cylinders are the property of the manufacturer or distributor where purchased and should be returned promptly by collect freight.
- 2. Do not ship cylinders without safety caps or valve protection bonnets.
- 3. When a cylinder is partially full and there is no further requirement for the product, contact the manufacturer or distributor for return instructions.
- 4. Containers should never be refilled by the consumer or used for any other product or purpose.

# FUMIGATION MANAGEMENT PLAN

Prior to the start of application, the applicator must verify that a site-specific Fumigation Management Plan (FMP) exists for each application block.

The Fumigation Management Plan must be prepared by the applicator or the site owner/operator.

The applicator must verify in writing (sign and date) that the site-specific Fumigation Management Plan(s) reflects current site conditions before the start of the application.

The applicator must ensure the Fumigation Management Plan is at the application block during all handling activities.

In addition, the applicator must complete a Post-Application Summary within 30 days after the application is complete.

# Instructions for Preparation of a Fumigation Management Plan

Each site-specific Fumigation Management Plan must contain the following elements:

- 1. Applicator information: name, phone number, certificate/license number, date of certification/licensing, specify if commercial or private applicator, employer name, and employer address.
- 2. *General site information*:
  - Application block location, address or global positioning system (GPS) coordinates.
  - Name, address, and phone number of owner/operator of the application block.
  - Map, aerial photo, or detailed sketch showing:
    - application block location,
    - application block dimensions,
    - buffer zones dimensions,
    - property lines,
    - roadways, rights-of-ways, sidewalks, permanent walking paths and bus stops,
    - nearby application blocks,
    - surrounding structures (occupied and non-occupied),
    - locations of Buffer Zone signs, and
    - locations of difficult to evacuate sites with distances from the application site.
- 3. General application information:
  - Target application date/window
  - Fumigant product name of fumigant
  - Product Registration Number
- 4. *Tarp plan*:
  - Schedule for checking tarps for damage, tears, and other problems

- Equipment/methods used to perforate tarps
- Target dates for perforating tarps
- Target dates for removing tarps
- 5. Soil Conditions:
  - Description of soil texture and moisture in application block
  - Method used to determine soil moisture
  - Soil temperature measurements (only required if air temperatures were above 37°C in any of the days prior to the application)
- 6. Buffer zones:
  - Application method
  - Injection depth
  - Application rate from the buffer zone look-up table on label
  - Application block size from the buffer zone look-up table on label
  - Buffer zone credits applied and measurements taken (if applicable)
  - Buffer zone distance
  - Description of areas in the buffer zone that are not under the control of the owner/operator of the application block. If buffer zones extend onto areas not under the control of the owner, the written agreement must be attached to the Fumigation Management Plan.
- 7. Details of the *Emergency Response Plan* as described in the <u>Emergency Response Plan</u> section of this label.
- 8. Posting of Fumigant Treated Area and Buffer Zone:
  - Person(s) who will post and remove (if different) Fumigant Treated Area and Buffer Zone signs
- 9. Emergency Preparedness and Response Measures (if applicable):
  - Fumigant site monitoring (if applicable):
    - When and where it will be conducted
  - Response information from neighbours (if applicable):
    - List of residences and businesses informed
    - Name and phone number of person providing information
    - Method of providing the information
- 10. Handler (including applicator) Information and Personal Protective Equipment:
  - Name, address and phone numbers of handlers
  - Names, addresses, and phone numbers for employers of handlers

- Date of certification/licensing recognized by the provincial or territorial pesticide regulatory agency for each handler
- Applicable handler personal protective equipment.

#### 11. Air monitoring plan:

- Indicate whether operations will cease, or continue with use of an air-purifying respirator, in the case sensory irritation is experienced
- For monitoring the breathing zone:
  - representative handler tasks to be monitored
  - monitoring equipment to be used
  - timing of the monitoring
- 12. Good Agricultural Practices (GAPs):
  - Identify applicable mandatory Good Agricultural Practices
- 13. Pesticide product labels and material safety data sheets (MSDS):
  - Ensure that pesticide product labels and material safety data sheets are on-site and readily available for employees to review.

## **Instructions for Preparation of Post-Application Summary**

The Post-Application Summary must contain the following elements:

- 1. Application Information
  - Actual date and time of the application
  - Application rate
  - Size of application block
- 2. Weather conditions

Summary of the weather during application and the 48-hour period after the application is complete, including:

- wind speed, and
- temperature inversion (if applicable).
- 3. Tarp damage and repair information (if applicable):
  - Date of tarp damage discovery
  - Location and size of tarp damage
  - Description of tarp, tarp seal and/or tarp equipment failure
  - Date and time of tarp repair completion

- 4. *Tarp perforation/removal details (if applicable):* 
  - Date and time tarps were perforated
  - Date and time tarps were removed
  - Record if tarps were perforated and/or removed early (as per conditions specified on the label). Describe the conditions that caused early tarp perforation and/or removal.
- 5. *Complaint details (if applicable):* 
  - Person filing complaint (for example, on-site handler, person off-site)
  - If off-site person, name, address, and phone number of person filing complaint
  - Description of control measures or emergency procedures followed after complaint
- 6. Description of *incidents, equipment failure, or other emergency and emergency procedures* followed (if applicable).
- 7. Air monitoring results:
  - When sensory irritation was experienced:
    - Date, time, location, and handler task/activity where irritation was observed
    - Resulting action (for example, implement emergency response plan, cease operations, continue operations with air-purifying respirators)
  - When using a direct read detection device:
    - Sample date(s), time(s), location(s), and concentration(s)
    - Handler task/activity monitored (if applicable)
    - Resulting action (for example, cease operations, continue operations with air-purifying respirators)
- 8. Fumigant Treated Area and Buffer Zone Signs:
  - Dates of posting and removal
- 9. Deviations from the Fumigation Management Plan
  - For example, changes in emergency response actions, changes in handler information, changes in handlers responsible for completing emergency tasks, and changes in communication between applicator, owner/operator, and other handlers.

## **Record keeping procedures**

The owner/operator of the application block as well as the applicator must keep signed copies of the site-specific Fumigation Management Plan and the Post-Application Summary for 2 years from the date of application.