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BASAMID® GRANULAR

SOIL FUMIGANT

For the control of soil-borne nematodes, soil fungi, and germinating weed seeds. It is suitable for the fumigation of open land and all kinds of seedbeds for nurseries and greenhouses.

COMMERCIAL (AGRICULTURAL)

GUARANTEE: Dazomet 97%

REGISTRATION NO. 15032 PEST CONTROL PRODUCTS ACT

RESTRICTED PRODUCT

**IN CASE OF EMERGENCY INVOLVING A POISONING OR MAJOR SPILL,
CALL 1-866-336-2983**

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

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



DANGER

POISON

NET CONTENTS: 20 kg

KEEP OUT OF REACH OF CHILDREN.

**ENGAGE AGRO CORPORATION
1030 GORDON STREET
GUELPH ON N1G 4X5**

BASAMID® is a registered trademark of Kanesho Soil Treatment BVBA/SPRL.

NATURE OF RESTRICTION

This product is only to be 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 Fumigation Management Plan. **READ AND UNDERSTAND THE ENTIRE LABEL BEFORE USING.**

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

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- If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at: www.croplife.ca.

HANDLER USE PRECAUTIONS

- Do not take internally.
- Avoid inhalation of vapour, dust, or spray mist and contact with eyes, skin or clothing.
- Wash hands thoroughly after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Do not smoke while using.
- Remove clothing immediately if pesticide comes in contact with skin through 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 while wearing personal protective equipment (for example, steering wheel, door handles, counter tops), 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 pre-determined area separate from living or working areas.
- Dust off any granules from 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.
- 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.
- 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 that has been heavily contaminated with this product. Do not reuse.
- Clean equipment thoroughly after use.

PERSONAL PROTECTIVE EQUIPMENT

Handlers must wear coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves, boots plus socks and goggles or face shield and hat.

Some materials that are chemical-resistant to this product are rubber, PVC, neoprene or nitrile. The personal protective equipment must be adequately cleaned and maintained.

In addition, when an approved air-purifying respirator is required under this label's **DIRECTIONS 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 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

IN CASE OF EYE CONTACT: 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.

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

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

TOXICOLOGICAL INFORMATION: Treat symptomatically.

ENVIRONMENTAL HAZARDS

Toxic to aquatic organisms. Toxic to non-target terrestrial plants

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to 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 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 dazomet 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 or greenhouse (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 **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 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.

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 official performing inspection, sampling, or other similar official duties) is PROHIBITED during the Application Block Period.

For all non-tarped applications, the Application Block Period begins at the start of application and expires 5 days after the application is complete.

For all tarped applications, 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.

Table 1 Required Application Block Period following soil fumigation

IF	Tarps are not perforated within 14 days after application	AND	Tarps are not removed for at least 14 days after application	THE APPLICATION BLOCK PERIOD EXPIRES	5 days after application is complete
	Tarps are perforated within 14 days after application		Tarps are not removed for at least 14 days after application		48 hours after tarp perforation is complete (minimum 7 days ^a)
			Tarps are removed within 14 days of application		after tarp perforation and removal is complete (minimum 5 days)

^a Unless tarps were perforated or removal 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 to 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 than can be expected to withstand adverse weather conditions. Letters must be at least 7 cm in height.
- 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.
- Only a certified handler may remove Fumigant Application signs.
- The signs must contain the following information in ENGLISH and FRENCH:
 - The “skull and crossbones” symbol
 - “DANGER”
 - “Area under fumigation DO NOT ENTER”
 - “Dazomet Fumigant in USE”
 - The date and time of fumigation
 - The date and time the Application Block Period is over
 - The name of the product
 - 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.

Table 2 Respiratory Protection and Stop Work Triggers

1.	<p>If at any time any handler experiences sensory irritation (tearing, burning or the eyes or nose), <u>when not wearing a respirator</u>:</p>	<p>Then EITHER:</p> <ul style="list-style-type: none"> • An <u>air-purifying respirator</u> must be worn by all fumigant handlers who remain in the application block and surrounding buffer zone, and <u>air monitoring samples</u> for MITC must be collected at least every 2 hours in the breathing zone of a handler performing a representative handling task. <p>OR</p> <ul style="list-style-type: none"> • <u>Operations must cease</u> and handlers not wearing an air-purifying respirator must leave the application block and the surrounding buffer zone.
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	Handlers can remove respirators or resume operations provided that	<ul style="list-style-type: none"> Two consecutive breathing-zone samples taken at the handling site at least 15 minutes apart show that <u>levels of MITC have decreased to less than 0.6 ppm</u>. Samples must be taken at the location where irritation is first experienced or where sample(s) were greater or equal to 6 ppm, and Handlers do not experience sensory irritation.
2.	If at any time any handler experiences sensory irritation when wearing a respirator , OR a MITC air sample is greater than or equal to 6 ppm	<ul style="list-style-type: none"> Operations must cease and handlers must leave the application block and surrounding buffer zone
	Handlers can resume work activities <u>with air-purifying respirators</u> provided that:	<ul style="list-style-type: none"> Two consecutive breathing zone samples for MITC taken at least 15 minutes apart are <u>less than 6 ppm</u> at the location where irritation was first experienced, Handlers do not experience sensory irritation while 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.
	Handlers can resume work activities <u>without air-purifying respirators</u> provided that:	<ul style="list-style-type: none"> Two consecutive breathing zone samples for MITC taken at the handling site at least 15 minutes apart show levels of MITC have decreased to <u>less than 0.6 ppm</u> at the location where the irritation was first experienced, and Handlers do not experience sensory irritation

FUMIGANT AIR MONITORING

When using monitoring devices to monitor air concentration levels, a direct reading detection device, such as colorimetric device (for example, Matheson-kitagawa, Draeger or Sensidyne) must be used. The devices must have a sensitivity of at least 0.6 ppm for MITC.

When breathing zones 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 exposure 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 activities.
- *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.

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.

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 (when tarps are used)

- 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.

Application Restrictions

- For applications outside, do not apply within 0.9 to 1.2 metres of growing plants or closer than the drop line of trees and large shrubs. If slopes are treated with this product, take precautions to prevent the chemical from washing downward to growing plants.
- Do not apply dazomet if ambient air temperature exceeds 39°C.
- Do not store dazomet in an open spreader overnight.
- Do not apply dazomet when wind may cause granules to drift from target area.
- Do not apply dazomet through any type of irrigation equipment.
- Before using dazomet be aware that the three most critical factors for a successful fumigation program are: soil preparation, soil temperature, and soil moisture.

Soil Preparation

Soil to be treated with **BASAMID GRANULAR** should be well prepared, in seedbed condition having a fine tilth and free from clods. It should be free from undecomposed roots and plant residues. Do not apply dazomet to dry or improperly tilled soil. Repeated cultivation before treating will improve control of perennial weeds. Ditching around the site will prevent weed seeds, nematodes, and fungi from washing into the treated area and contaminating it.

Soil Temperature

Do not use dazomet when the soil temperature is over 32°C, 5 cm deep.

Soil Moisture

For optimal effect, the soil to be fumigated must have sufficient moisture for good plant growth (at least 50% available water capacity) for 5-14 days (depending on temperature) before the treatment. Water the soil as necessary to achieve and maintain this level. After application, the soil must be kept uniformly moist for 5-7 days.

Sealing of Treated Soil

As soon as possible after incorporation, the soil should be sealed to retain the maximum concentration of gases in the soil. This can be done by:

- a) Compacting the surface with a roller. The surface should be firm and free from cracks and remain so for the duration of fumigation. To avoid surface cracks in hot weather, water the soil as required.

- b) Flooding the soil surface with water to obtain a surface crust. Ten to twenty litres of water per sq. metre are required. Surface compaction as in (a) and flooding can be combined.
- c) Lightly moistening the soil on the third and fourth days after treatment in case the weather dries out the soil surface to avoid surface cracks
- d) Covering the treated area with a tarp and sealing the edges with soil. This method will allow the effective gases to act more efficiently on disease agents and weed seeds immediately below the soil surface and thus increase the effectiveness of **BASAMID GRANULAR**.

METHOD OF APPLICATION

Apply **BASAMID GRANULAR** evenly over the soil with a fertilizer spreader or other suitable equipment. It may be applied by hand if chemical resistant gloves are worn. Even distribution is essential and therefore application equipment should be calibrated. Avoid breathing any dust.

DO NOT APPLY BY AIR.

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.

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

For greenhouse applications:

- The maximum application block size that can be treated in greenhouses is 4500 m².
- After treatment with **BASAMID GRANULAR**, greenhouses must be thoroughly aired before entering or working in them.
- DO NOT allow effluent or runoff from greenhouse containing this product to enter lakes, streams, ponds or other waters.

Crops

Vegetable seedbeds (field, greenhouse) for eggplant, lettuce, pepper, tomato.

Tobacco seedbeds - fall treatment only (greenhouse).

Forest nurseries, seed or propagation beds (field, greenhouse) for conifer, deciduous, ornamentals.

Annual flower beds (field, greenhouse).

Turf seedbeds.

Ginseng seedbeds.

On contact with moist soil the active ingredient of **BASAMID GRANULAR** breaks down and releases toxic gases which spread in the air phase of the soil. These gases control unencysted nematodes, soil fungi and most germinating weed seeds commonly found in soil and mixtures of soil and peat used in seedbeds.

Application Rates

Application Method	Application Rate
Open land uses – Physical/Mechanical Incorporation	3.25 – 4.91 kg product per 100 sq. metres of area to be treated
Greenhouses	3.1 kg product per 100 sq. metres of area to be treated

For strip and 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 is the rate of fumigant applied within the entire perimeter of the application block (See the section entitled **Calculating the Broadcast Equivalent Application Rate**).

Incorporation

BASAMID GRANULAR must be thoroughly and evenly incorporated into the soil to a depth of 15 to 23 cm. immediately after application. This is best achieved using a rotary cultivator or rototiller equipped with L-shaped tines. The rotor speed should be high and the forward speed low.

Aeration of Soil

ALL TRACES OF TOXIC GASES MUST DISAPPEAR FROM THE TREATED SOIL BEFORE PLANTING OR SOWING, OTHERWISE PLANT DAMAGE OR KILL MAY RESULT.

At warm soil temperatures (above 18°C at 10 to 15 cm.) the soil may be opened five to seven days after the **BASAMID GRANULAR** application. This can be done with a rototiller, disc harrow or hand tools. The soil should be worked to the depth of incorporation of **BASAMID GRANULAR**, but no deeper. At the next step about 2 days later, the SAFETY GERMINATION TEST must be carried out.

At cooler temperatures (below 8°C to 12°C) the soil should not be worked for 2 to 4 weeks after application and the waiting period after opening the soil should be 10 to 15 days.

When soil temperatures are below 6°C **BASAMID GRANULAR** should not be used.

Potting soil must also be aerated.

When aerating greenhouses, provide adequate ventilation and be sure exhaust fumes do not flow over growing plants.

Use only disinfected clean equipment when opening treated soils. This helps prevent the introduction of plant pests to the treated area. The same is true for footwear as well.

Waiting Period

The interval between treatment and planting depends on the temperature, moisture and structure of the soil. For medium soils, general recommendations as follows can be made.

**Soil Temperature
at a depth of 10 cm**

**Period between
treatment and planting**

Over 18°C	10 - 12 days
15 - 18°C	12 - 18 days
12 - 15°C	18 - 25 days
8 - 12°C	25 - 30 days
6 - 8°C	30 - 40 days

NOTE: DO NOT USE TREATED SOIL UNTIL THE SAFETY GERMINATION TEST HAS BEEN CARRIED OUT AND HAS SHOWN THE SOIL TO BE SAFE TO USE.

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 resampled. 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.

Special Instructions – Tobacco Greenhouses

Treat tobacco greenhouses with **BASAMID GRANULAR** only in the fall, preferably before mid-October.

Dry muck is difficult to wet and particular care should be taken to ensure that the muck is moist to the full depth of treatment for 5 to 7 days before treatment.

The depth of incorporation should be 10 to 13 cm., but will depend on the depth of the muck layer.

DO NOT INCORPORATE DEEP ENOUGH TO MIX SAND WITH THE MUCK.

The preferred method of sealing the soil is to use polyethylene sheets. Two to three weeks after treatment, remove the plastic sheets, aerate the soil and carry out the SAFETY GERMINATION TEST. If necessary, repeat the aeration and germination test until cress seeds germinate evenly.

To prevent weed seeds from blowing onto the treated soil, the plastic sheets may be replaced after the aeration and germination tests.

Warning

In greenhouses and cold frames, remove all plants before treating with **BASAMID GRANULAR** and do not re-introduce plant material until the soil has been aerated and the SAFETY GERMINATION TEST has shown the soil to be safe to use.

When using **BASAMID GRANULAR**, and when ventilating greenhouses after use, ensure that the toxic vapours from the treated house do not enter adjacent or adjoining houses, or damage to plants may occur. Doors and windows separating houses should be tightly sealed by additional plastic or similar material.

Our data is not complete for the use of **BASAMID GRANULAR** to fumigate propagating bed materials other than soil or soil-peat mixtures.

Our data is also not complete on the use of **BASAMID GRANULAR** treated soil for covering Hydrangea plants during dormant periods. Do not use for such, or similar purpose.

For best results, do not use manure or lime shortly before, during or immediately after the application of **BASAMID GRANULAR**.

Clean application equipment with water after use with **BASAMID GRANULAR** before using for other purposes.

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 last 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 dazomet (or other MITC generating pesticide) buffer zone(s).

To reduce the potential for off-site movement from multiple fumigated fields, buffer zones from multiple dazomet (or other MITC generating pesticide) 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 buildings 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 dazomet (or other MITC generating pesticide) buffer zone from any adjacent property owners, except as provided for above, and
- 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 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 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 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. Letter must be at least 7 cm in height.
- 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.
- Only a fumigant handler may remove Buffer Zone signs.
 - 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"

- "Dazomet [BASAMID® GRANULAR] 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 100 m²
- strip or bed bottom width (cm)
- center-to-center row spacing (cm)
- application block size (hectares)

Kilograms of product **per treated 100 m²** is the ratio of total amount of product applied to the size of the **total area treated** (for example, 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 × width) of each treated bed bottom or strip that is located within the application block as shown by the black areas in Figure 1 (for example, black areas are 0.6 ha 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, 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:

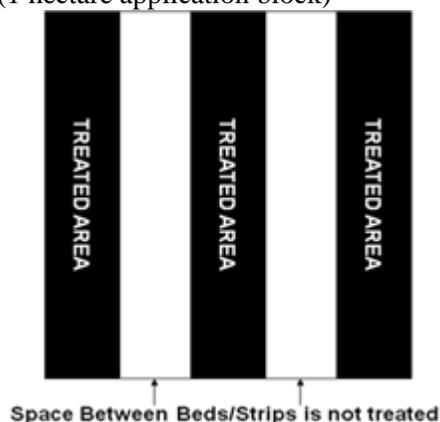
$$\text{Broadcast equivalent rate (kilograms of product per 100 m}^2\text{)} = \frac{\text{strip or bed bottom width (cm)}}{\text{center-to-center row spacing (cm)}} \times \text{Kilograms of product per 100 m}^2$$

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.

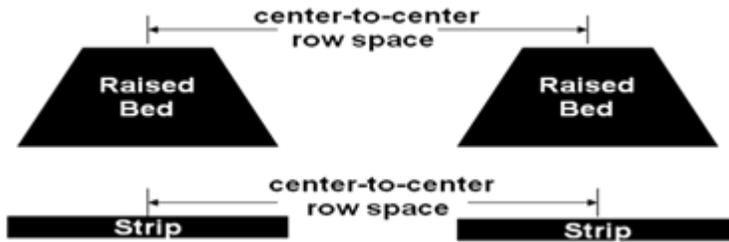
If there are any ditches, waterways, drive rows and other areas that are not fumigated that are in the

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



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.

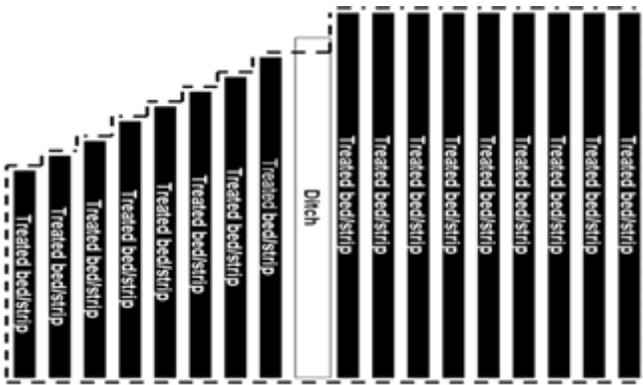
Figure 2. Center Row Spacing



Sample broadcast equivalent rate calculation

Assumptions:

- Application method is bedded
- Bed width is 80 cm (measured at the bottom of bed)
- Center-to-center row spacing is 160 cm
- 4.9 kilograms of product per 100 sq. meter of bed
- 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



$$\text{broadcast equivalent rate (kg product/ha)} = \frac{\text{bed bottom width (cm)}}{\text{center-to-center row spacing (cm)}} \times \frac{\text{area of beds plus row spacing (ha)}}{\text{application block size (ha)}} \times \text{kg product/100m}^2$$

$$\text{broadcast equivalent rate (kg product/ha)} = \frac{80 \text{ cm}}{160 \text{ cm}} = \frac{3.9 \text{ ha}}{4.0 \text{ ha}} \times 4.9 \text{ kg product/100m}^2$$

$$\text{broadcast equivalent rate (kg product/ha)} = 2.38 \text{ kg product/100m}^2$$

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

Table 4: Dazomet Buffer Zone Distances (Meters) for Mechanically Incorporated Soil Applications (Non-Greenhouse Use)

Broadcast Equivalent Application Rate (kg prod/100m ²)	Application Block Size (hectares)											
	16	12	8	6	4	3.5	3	2.5	2	1.5	1	≤0.5
4.9 - 4.91	275	200	150	125	85	80	70	55	50	45	45	35
4.64 - 4.89	225	175	125	100	75	70	65	50	45	40	35	25
4.48 - 4.63	225	175	125	100	75	70	60	50	45	40	35	20
4.38 - 4.47	225	175	125	100	70	65	60	50	45	40	35	20
4.28 - 4.37	225	175	125	95	70	65	60	50	45	35	30	20
4.18 - 4.27	200	175	125	90	65	60	55	50	40	35	30	20
4.02 - 4.17	200	150	125	90	65	60	55	45	40	35	30	20
3.92 - 4.01	200	150	100	85	65	60	55	45	40	35	30	15
3.81 - 3.91	200	150	100	85	60	55	50	45	40	35	30	15
3.71 - 3.8	175	150	100	80	60	55	50	40	40	30	25	15
3.56 - 3.7	175	150	95	75	55	55	50	40	35	30	25	15
3.45 - 3.55	175	125	95	75	55	50	45	40	35	30	25	15
3.35 - 3.44	175	125	90	70	50	50	45	35	35	30	25	15
3.25 - 3.34	150	125	85	65	50	45	45	35	35	25	20	10
3.14 - 3.24	150	125	80	65	50	45	40	35	30	25	20	10
3.04 - 3.13	150	125	75	60	45	45	40	35	30	25	20	10
2.99 - 3.03	150	100	75	60	45	40	35	30	25	20	15	10
2.89 - 2.98	150	100	70	55	40	35	35	25	25	20	15	10
2.78 - 2.88	150	100	70	50	35	35	30	25	20	15	15	10
2.68 - 2.77	125	100	65	50	35	30	25	20	15	15	10	10
2.53 - 2.67	125	95	60	45	30	25	25	15	15	10	10	10
2.42 - 2.52	125	90	60	40	25	25	20	15	10	10	10	10

2.32 - 2.41	125	85	55	40	25	20	15	10	10	10	10	10	10
2.22 - 2.31	100	80	55	40	25	20	15	10	10	10	10	10	10
2.06 - 2.21	100	80	50	35	25	20	15	10	10	10	10	10	10
1.96 - 2.05	100	75	50	35	20	20	15	10	10	10	10	10	10
1.86 - 1.95	90	70	45	35	20	20	15	10	10	10	10	10	10
1.75 - 1.85	85	65	45	30	20	15	15	10	10	10	10	10	10
1.6 - 1.74	80	60	40	30	20	15	15	10	10	10	10	10	10
1.55 - 1.59	75	55	40	30	20	15	15	10	10	10	10	10	10
1.49 - 1.54	75	55	40	30	20	15	10	10	10	10	10	10	10
1.38 - 1.48	65	50	35	25	15	15	10	10	10	10	10	10	10
1.29 - 1.37	55	45	30	20	15	10	10	10	10	10	10	10	10
1.13 - 1.28	45	35	25	20	15	10	10	10	10	10	10	10	10
1.03 - 1.12	35	30	20	15	10	10	10	10	10	10	10	10	10
0.93 - 1.02	25	20	15	15	10	10	10	10	10	10	10	10	10
0.82 - 0.92	20	15	10	10	10	10	10	10	10	10	10	10	10
0.77 - 0.81	10	10	10	10	10	10	10	10	10	10	10	10	10

Table 5: Dazomet Buffer Zone Distances (Meters) for All Greenhouse Applications

Broadcast Equivalent Application Rate (kg prod/100m ²)	Structure Size (m ²)								
	≤500	1000	1500	2000	2500	3000	3500	4000	4500
3.04 - 3.1	75	100	125	175	200	225	250	275	350
2.32 - 3.03	55	90	100	125	175	175	225	225	250
1.55 - 2.31	35	65	80	100	125	125	175	175	200
0.77 - 1.54	15	25	35	50	65	75	90	100	100

BUFFER ZONE CREDITS

The buffer zone distances (from the buffer zone look-up tables) for dazomet applications can be reduced by the percentages listed in Table 6, 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 6: Buffer Zone Credits and Conditions

Credit Type*	Buffer Zone Distance Reduction (%)	Condition
Soil organic content	10%	If the organic content of soil in the application block is ≥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%.

Example of buffer calculations 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 meters, then the Emergency Preparedness and Response Measures are not applicable.

If any of the conditions outlined in Table 7 apply, **either** the directions for Fumigant Site Monitoring or the directions for Response Information for Neighbours must be followed:

Table 7: Triggers for Emergency Preparedness and Response Measures

The Emergency Preparedness and Response Measures are triggered if	Buffer zone distance is	and	Residences and businesses are located
	>8 to ≤ 30 m		Within 15 m from the outer edge of the buffer zone
	>30 to ≤ 60 m		Within 30 m from the outer edge of the buffer zone
	>60 to ≤ 90 m		Within 90 m from the outer edge of the buffer zone
	>90 m or if buffer zone overlaps another dazomet (or other MITC generating pesticide) 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.

STORAGE

1. Store in original, tightly-closed container.

2. Do not ship or store near food, feed, seed or fertilizers.
3. Store in cool, dry, locked, well-ventilated area without floor drain.
4. Keep away from moisture and temperatures above 50⁰C.

DISPOSAL

1. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
2. Make the empty container unsuitable for further use.
3. Dispose of the container in accordance with provincial requirements.
4. For information on 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.

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* (if tarps are used):
 - 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
 6. *Buffer zones:*
 - Application method
 - 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 Emergency Response Plan 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
 - *Location of 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
 - air stagnation advisory (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.

NOTICE TO USER:

This control product is to be used only in accordance with the directions on this label. 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. The user assumes the risk to persons or property that arises from any such use of this product.