

2018-6277
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METAM[®] Sodium Agricultural

For the control of:

- A) weeds, fungi and nematodes on soils of ornamental, food and fiber crops
- B) decay and insects in wood

Emulsifiable concentrate

RESTRICTED PRODUCT

**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**

ACTIVE INGREDIENT: Metam Sodium....380 g/L

REGISTRATION NO.: 28247 PEST CONTROL PRODUCTS ACT
IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY INVOLVING THIS PRODUCT, CALL DAY OR NIGHT: 1-800-454-2673

DANGER



POISON

DANGER – CORROSIVE TO EYES

DANGER SKIN IRRITANT

POTENTIAL SKIN SENSITIZER

KEEP OUT OF REACH OF CHILDREN.

NET CONTENTS: 10 L

Taminco US LLC.
A subsidiary of Eastman Chemical Company
200 S. Wilcox Drive
Kingsport, TN 37660
United States

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1-423-229-2000

METAM[®] is a registered trademark of Kanesho Soil Treatment BVBA/SPRL.

NATURE OF RESTRICTION

This product is only to be sold to and used by individuals holding an appropriate pesticide applicator certificate or licence 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.

Fatal or Poisonous if swallowed or absorbed through the skin. DO NOT get on skin or on clothing. Harmful if inhaled. Avoid inhaling/breathing vapour or sprays. CORROSIVE to the eye and to skin. DO NOT get in eyes or on skin. Potential skin sensitizer.

Dilution with water produces toxic gas.

Stay out of treated area.

Keep off desirable lawns, plants or crops.

HANDLER USE PRECAUTIONS:

Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove clothing immediately if pesticide comes in contact with skin through soaked clothing or 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.

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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.

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.

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 and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

PERSONAL PROTECTIVE EQUIPMENT:

For wood preservation uses:

Wear coveralls over a long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves, and protective eyewear during mixing, loading, application and all other handling activities.

For soil fumigant uses:

All handlers must wear at a minimum a long-sleeved shirt, long pants, a hat, chemical-resistant boots and socks, chemical-resistant gloves and protective eyewear (goggles or face shield).

Handlers performing any tasks with potential for contact with liquid fumigant (such as, transferring or loading liquid formulations, operating motorized ground equipment with open cabs, applying with hand-held application equipment, repairing or inactivating equipment during application, and cleaning up spills or equipment) must wear:

- coveralls over long-sleeved shirt and long pants,
- chemical-resistant gloves,
- chemical-resistant boots plus socks,

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- a chemical-resistant apron, and
- protective eyewear (goggles or face shield)

Some materials that are chemical-resistant to this product are Buna-N-Rubber, EPDM rubber, silicone rubber, nitril rubber, PVC, Neoprene and Nitrile. The personal protective equipment must be adequately cleaned and maintained.

In addition, when an 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 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:

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 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.

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 mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice. Take the container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

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ENVIRONMENTAL HAZARDS:

Toxic to aquatic organisms.

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 metam sodium 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.

STORAGE:

1. Store in original, tightly-closed container.
2. To prevent contamination store this product away from food or feed.
3. Store in cool, dry, locked, well-ventilated area without floor drain.
4. Herbicides should be shipped or stored separately from other pesticides to avoid cross-contamination.
5. Protect from freezing.
6. Keep away from heat, fire and sparks.

DISPOSAL:

RECYCLABLE CONTAINER

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site.

Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for any further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

PRODUCT

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.

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DIRECTIONS FOR USE:

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

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 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.

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.

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 removed earlier than 5 days following application based on weather conditions (see **Tarp Perforation and/or Removal**).

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 that 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:

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- The “skull and crossbones” symbol
- “DANGER”
- “Area under fumigation, DO NOT ENTER”
- “Metam sodium 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 of 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> must be collected for MITC 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 surrounding buffer zone
	<p>Handlers can remove respirators or resume operations provided that:</p>	<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 the 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 <u>when wearing a respirator</u> , OR a MITC air sample is greater than or equal to 6 ppm	<ul style="list-style-type: none"> • <u>Operations must cease</u> 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 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.
	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 a 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 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 (1 acre) or less.
- During flood prevention activities.

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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.

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. When indicated, additional Good Agricultural Practices must also be followed for the specified application method.

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 daily for damage, tears, and other problems.

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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 Conditions and Soil Sealing

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

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- Compaction with a bed-shaper, roller, press wheel, coil packer, ring packer, or similar device, OR
- Covering the treated soil with 8 – 15 cm of untreated soil, OR
- Applying a minimum of a 0.6 cm of water beginning immediately after application begins and completing the water treatment within four hours, OR
- Covering treated area with a tarp

Soil Temperature

The soil temperature must be between 10°C and 32°C at the beginning of the application. Soil temperature is measured at a depth of 8 cm. 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 Moisture

The soil moisture in the top 15 cm must be between 60% to 80% of available water capacity immediately prior to the application. If there is insufficient moisture throughout the top 15 cm of soil, the soil moisture must be adjusted. If there is adequate soil moisture below 15 cm, soil moisture can be brought to the surface by tillage prior to the application. To conserve existing soil moisture, tillage should be done as close to the time of application as possible.

- 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.

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

Soil Texture	Soil Properties
Coarse textured soils (fine sand and loamy fine sand)	<ul style="list-style-type: none"> • soil is moist enough to form a weak ball with loose and clustered sand grains on fingers • darkened color • moderate water staining on fingers • will not ribbon
Moderately coarse textured soils (sandy loam and fine sandy loam)	<ul style="list-style-type: none"> • soil is moist enough to form a ball with defined finger marks • very light soil/water staining on fingers • darkened colour • will not stick
Medium textured soils (sandy clay loam, loam, and silt loam)	<ul style="list-style-type: none"> • soil is moist enough to form a ball • very light staining on fingers • darkened colour • pliable • forms a weak ribbon between the thumb and forefinger
Fine textured soils (clay, clay loam, and silty clay loam)	<ul style="list-style-type: none"> • soil is moist enough to form a smooth ball with defined finger marks • light soil/water staining on fingers • ribbons between thumb and forefinger
<p>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.</p>	

Application and Equipment Considerations

- Application equipment must be in good working order.
- Tanks must be in good condition to ensure product does not spill or leak.
- Tanks must have sealable covers on access ports.
- Tanks must have proper pesticide labels affixed to them.
- All tanks, hoses, fittings, valves and connections must be serviceable, tightened, sealed and not leaking.
- Use only tanks, hoses and fittings designed to withstand the pressure of the system and resistant to metam sodium.
- For undiluted product, aluminum, brass, copper, galvanized iron, and zinc materials cannot be used.
- Dry disconnect couplings (closed transfer system) must be installed on all tanks and transfer hoses.
- Each nozzle must be equipped with a flow monitor, for example, mechanical, electronic,

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or Red-ball type monitor.

- Nozzles and metering devices are of correct size and are sealed and unobstructed.
- All previous materials applied with the system must be cleaned thoroughly prior to fumigant application.
- System must be flushed after application to totally remove all fumigant.

METHODS OF APPLICATION:

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 through any type of irrigation system.

DO NOT apply when wind speed causes non-uniform distribution and/or favours drift beyond the area intended for treatment.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift.

RESTRICTIONS AND LIMITATIONS:

1. Use immediately after mixing with water. Do not allow the solution to stand.
2. Apply product only as specified on this label.
3. DO NOT APPLY BY AIR.

A) WOOD PRESERVATION (CONTROL OF DECAY AND INSECTS IN WOOD)

APPLICATION AND RATE:

Large structural timbers have so many different end uses that the ground line area of a 100cm diameter pole is taken as an example for application of this product.

For interior decay, bore four or five holes, 2 cm in diameter and a length of about 2.5 times the radius of the wood at about 45° angle downward.

The first hole should be at the ground level and succeeding holes about 15 to 30 cm higher and 90° rotated from the next lower hole. Use a total of 0.5 litres of product per pole.

For remedial treatment of wooden poles/timbers:

1. Plug the pre-drilled holes immediately after application;
2. Do not treat structures/beams indoors;
3. Do not drill an application hole through seasoning checks to apply product. If the hole intersects a check, plug the hole and drill another. If more than 2 treatment holes intersect an internal void or rot pocket, re-drill the holes farther up the pole into relatively solid wood.
4. DO NOT apply this product to wood that will be used in water.

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B) AGRICULTURAL USES (CONTROL OF WEEDS, FUNGI AND NEMATODES)

APPLICATION AND RATE:

Pour required amount of METAM® Sodium Agricultural in the spray tank, fill with water and stir to mix.

Apply METAM® Sodium Agricultural evenly over the soil with a fertilizer spreader or other suitable equipment. Use 1 litre of product per 30 square metres to be treated.

Seven days after treatment, rake to a depth of 8 cm. Rake again one week later - do not rake deeper than 5 cm. Do not mix untreated soil with treated soil.

Soil high in clay or organic matter should be aerated and allowed to dry thoroughly after treatment. During cold wet weather, frequent shallow surface cultivation will aid the escape of METAM® Sodium Agricultural from the soil.

Do not cultivate deeper than 5 cm. On well drained soils of light to medium texture, which are not excessively wet or cold following application, planting may take place 21 days after treatment. If soil remains excessively wet and/or cold, wait 30 days.

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 6 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 metam sodium (or other MITC generating pesticides) buffer zone(s).

To reduce the potential for off-site movement from multiple fumigated fields, buffer zones from multiple metam sodium (or other MITC generating pesticides) 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 may 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 metam sodium (or other MITC generating pesticides) 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.

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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.

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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”
- “METAM Sodium Agricultural 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.

Buffer Zone Distances:

Buffer zone distances must be calculated based on the buffer zone look-up table provided on this label, using the application rate, 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 table.

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.

Table 4. Buffer zone distances (metres)

Broadcast Equivalent Application rate		Block size (ha)																		
		≤0.4	0.5	1	2	3	4	6	8	10	12	14	16	20	24	28	32	36	40	48
L product/ 30 m ²	L product/ ha																			
1	334	40	44	51	62	72	77	99	121	132	143	154	176	198	220	231	253	274	296	329

Buffer Zone Credits:

The buffer zone distances for metam sodium applications can be reduced by the percentages listed in Table 5, 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 5 Buffer Zone Credits and Conditions

Credit Type	Buffer Zone Distance Reduction (%)	Condition
Tarp	10-30 %	See www.tarpcredits.epa.gov 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.
Soil organic content	10%	If the organic content of 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%.

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 % 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 6 apply, either the directions for Fumigant Site Monitoring or the directions for Response Information for Neighbours must be followed:

Table 6 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 zones overlap		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.

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,

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- 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 (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 (if applicable)
 - 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
 9. *Emergency Preparedness and Response Measures* (if applicable):

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- 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

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- 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:

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This pest control product is to be used only in accordance with the directions on the 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.