



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

April 4, 2018

Mardel Rose Belotinsky  
Registration Manager  
Soil Chemicals Corporation  
Dbc Cardinal Professional Products  
P.O. Box 782  
Hollister, CA 95204-0782

Subject: Label and CSF Amendment – addition of me-too “log” use; Updated CSFs (Basic and Alternate CSFs 1-3)  
Product Name: Methyl Bromide 100  
EPA Registration Number: 8536-15  
Application Date: 3/7/2017  
Decision Number: 527295

Dear Ms. Belotinsky:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

The Confidential Statement of Formula (CSF) referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

Please note that the record for this product currently contains the following CSFs:

- Basic CSF dated 1/17/2018
- Alternate CSF 1 dated 1/17/2018
- Alternate CSF 2 dated 1/17/2018
- Alternate CSF 3 dated 1/17/2018

Any CSFs other than those listed above are superseded/no longer valid.

If you have any questions, please contact Heather Garvie by phone at 703-308-0034, or via email at [garvie.heather@epa.gov](mailto:garvie.heather@epa.gov).

Sincerely,



Hope Johnson, Product Manager 21  
Fungicide Branch  
Registration Division (7505P)  
Office of Pesticide Programs

Enclosure

{All text in brackets [xxx] is optional and may or may not be intended to be placed on a final label.}

{All text in braces {xxx} is administrative and will not appear on a final label.}

**RESTRICTED USE PESTICIDE**

**Due to Acute Toxicity**

For retail sale to and use by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

**Methyl Bromide 100**

**Commodity Fumigant**

ACTIVE INGREDIENT: Methyl Bromide ..... 100%

TOTAL: ..... 100%

*This product weighs 13.99 lbs./gal. at 68°F (20°C).*

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**



**PELIGRO**

**POISON**

*{Note: «Poison» will be printed in red.}*

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

*{Statements to be placed on front panel.}*

THE USE OF THIS PRODUCT IS STRICTLY PROHIBITED IN RESIDENTIAL STRUCTURES INCLUDING, BUT NOT LIMITED TO, SINGLE AND MULTI-FAMILY RESIDENTIAL PROPERTIES, AND DAYCARE FACILITIES.

THE USE OF THIS PRODUCT IS ALSO STRICTLY PROHIBITED IN NURSING HOMES, HOTELS, DORMITORIES, SCHOOLS, HOSPITALS, AND PUBLIC RESTAURANTS.

DO NOT STORE IN OR WITHIN 100 FEET OF A RESIDENCE. STORE IN A DRY, COOL, WELL-VENTILATED AREA UNDER LOCK AND KEY.

METHYL BROMIDE IS A NEUROTOXIC GAS THAT CAN CAUSE SEVERE RESPIRATORY ISSUES, CONVULSIONS, COMA, LONG-TERM HARM TO THE NERVOUS SYSTEM, OR DEATH.

READ ALL LABELING BEFORE USING THIS PRODUCT, AND FOLLOW ALL DIRECTIONS AND PRECAUTIONS.

IF YOU DO NOT UNDERSTAND THE LABEL, FIND A CERTIFIED APPLICATOR TO EXPLAIN IT TO YOU IN DETAIL. [SI USTED NO ENTIENDE LA ETIQUETA, BUSQUE A UN APLICADOR CERTIFICADO PARA QUE SE LA EXPLIQUE A USTED EN DETALLE.]

*Produced for:*

**Soil Chemicals Corporation D/B/A**

**Cardinal Professional Products**

8100 Arroyo Circle • Gilroy, CA 95020

(800) 548-2223

EPA Est. 11220-CA-8



**ACCEPTED**

Apr 04, 2018

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 8536-15

{All text in brackets [xxx] is optional and may or may not be intended to be placed on a final label.}

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[See side panel(s) for additional Precautionary Statements.] {AND/OR}

[See attached label booklet for additional Precautionary Statements.] {AND/OR}

[See inside label booklet for additional Precautionary Statements.] {AND/OR}

[See label booklet for additional Precautionary Statements and complete Directions for Use.] {AND/OR}

[See inside of label booklet for additional Precautionary Statements and complete Directions for Use.] {AND/OR}

[See attached label booklet for complete Directions for Use.] {AND}

[Date of Labeling: {Insert stamped "accepted" date.}]

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER.** Extremely hazardous liquid and vapor under pressure. Fatal if inhaled or swallowed. Corrosive. Causes skin burns and irreversible eye damage, both of which may have a delayed onset. Do not breathe vapor or gas. Inhalation may cause serious acute illness or delayed lung, nerve, or brain injury. Do not get in eyes, on skin or on clothing. Methyl bromide vapor is odorless and non-irritating to skin and eyes during exposure. Exposure to toxic levels may occur without warning or detection by the user.

<b>FIRST AID</b>	
<b>If inhaled:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>If swallowed:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eyes open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eyes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>Note:</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>NOTE TO PHYSICIAN</b>	
Early symptoms of overexposure are dizziness, headache, nausea and vomiting, weakness, and collapse. Lung edema may develop in 2 to 48 hours after exposure, accompanied by cardiac irregularities; these effects are the usual cause of death. Repeated overexposure can result in blurred vision, staggering gait, and mental imbalance, with probable recovery after a period of no exposure. Blood bromide levels suggest the occurrence, but not the degree, of exposure. Treatment is symptomatic.	
<b>EMERGENCY PHONE NUMBER:</b> Chemtrec, 1-800-424-9300	

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## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other fumigation handlers must wear:

- Long-sleeved shirt and long pants
- Shoes and socks
- Protective eyewear when handling liquid
- In addition, when a respirator is required in this label's *Respirator Requirements* section of the *Directions for Use*, applicators and other fumigation handlers must wear:
  - a supplied air respirator (NIOSH approval number prefix TC-19C),
  - a self-contained breathing apparatus (SCBA) (NIOSH approval number prefix TC-13F), or
  - if methyl bromide concentrations are less than 5 ppm, a NIOSH-certified half-mask or full-face piece air-purifying respirator with a cartridge certified by the manufacturer for protection from exposure to methyl bromide at concentrations up to 5 ppm (e.g., a 3M air-purifying respirator equipped with 3M Model 60928 Organic Vapor/Acid Gas/P100 cartridges).

See the "User Safety Requirements" section for additional restrictions.

Fumigation handlers entering the fumigation site before methyl bromide has been introduced to the treatment area or after the aeration period has ended are not required to wear the PPE listed above, except when moving, handling, opening fumigant containers, or when taking corrective action when a spill or leak has occurred.

## **USER SAFETY REQUIREMENTS**

- **Respirator Requirements:** When a respirator is required for use with this product, the certified applicator supervising the fumigation must make sure that:
  - a) Respirators must be fit tested and fit checked using a program that conforms with OSHA's requirements (described in 29 CFR Part 1910.134);
  - b) Respirator users must be trained using a program that conforms with OSHA's requirements (described in 29 CFR Part 1910.134);
  - c) Respirator users must be examined by a qualified medical practitioner to ensure the physical ability to safely wear the style of respirator to be worn;
  - d) Respirators must be maintained according to a program that conforms with OSHA's requirements (described in 29 CFR Part 1910.134.)
- Do not wear jewelry, rubber gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Methyl bromide can be trapped inside clothing or objects and cause skin injury.
- If liquid fumigant splashes or spills on clothing, remove them at once and place them outdoors in an isolated place to aerate, because vapor or gas will be an intolerable source of irritation.
- Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Air dry clothes in an isolated place prior to disposal.
- At the end of the work day remove outer clothing, shoes, and socks. Do not reuse contaminated clothing or shoes until cleaned. Keep and wash the clothing and shoes separately from other laundry.
- Follow manufacturer's instructions for cleaning/maintaining protective eyewear and respirators.

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### **USER SAFETY RECOMMENDATIONS**

- Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing.

### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to mammals and birds. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### **CHEMICAL HAZARDS**

- Methyl bromide is practically nonflammable. There is no danger from fire or explosion in use concentrations. However, flame can change the chemical to produce some corrosive damage to items in the space being fumigated. Pilot lights and glowing wire heaters must be turned off.
- Do not apply gas directly to metal surfaces because of possible corrosive effect on certain metals. Do not use containers or application equipment made of magnesium, aluminum, or their alloys.
- The following materials can develop an undesirable odor when encountered in fumigated areas and should be removed from the space being fumigated:
  - Foodstuffs: (a) Iodized salt; (b) Full-fat soya flour, (c) Any kinds of materials that contain reactive sulfur compounds, such as some soap powders, some baking sodas, and some salt blocks used for cattle licks.
  - Certain rubber goods: (a) sponge rubber; (b) Foam rubber, as in rug padding, pillows, cushions, and mattresses; (c) Rubber stamps and other similar forms of reclaimed rubber.
  - Furs, horsehair, and pillows (especially feather pillows).
  - Leather goods (particularly white kid or any other leather goods tanned with sulfur processes).
  - Woolens (extreme caution should be used in the fumigation of any angora woolens, and some adverse effect has been noted on the fumigation of woolen suits, coats, blankets, hand-knit woolen socks, sweaters, shawls, and woolen yarn).
  - Viscose rayons (those rayons processed or manufactured by a process in which carbon bisulfide is used).
  - Paper: (a) Silver-polishing papers; (b) Certain writing papers cured by sulphide processes; (c) Carbonless paper or blue-prints.
  - Photographic chemicals as used in photo processing darkrooms (does not include camera film).
  - Cinder blocks, or mixed concrete, which occasionally picks up odors.
  - Any materials that may contain reactive sulfur compounds.
- **THESE PRODUCTS MAY HINDER EFFECTIVENESS OF THE FUMIGANT:** Charcoal materials (charcoal absorbs the methyl bromide, reducing the effective concentration and contaminating the charcoal).



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- If there is a question whether a material may develop an odor, a test fumigation may be run with a small quantity of the material.

### **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact handlers or other persons, either directly or through drift. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### *Applications in California:*

Where a Restricted Materials Permit with site-specific Final Permit Conditions is required for fumigation pursuant to Title 3 of the California Code of Regulations section 6400, the certified applicator must follow the conditions and instructions specified in the Final Permit Conditions issued by the County Agricultural Commissioner provided that the buffer zone distances are equal to or greater than the buffer zone distances specified in the August 8, 1994 California Methyl Bromide Commodity Fumigation Reference Manual in place of the following sections of this label: *Buffer Zones; Buffer Zone Entry Restrictions; Respirator Requirements & Work Time Restrictions; and Aeration Period.*

THIS PRODUCT IS TO BE USED for control of pests in stored or residual food products, agricultural commodities and other materials and products as specified on this label. This product is to be used for these purposes ONLY IN: (a) enclosed spaces and structures that are intended or used for processing, transportation, handling, or storage of feed products, agricultural commodities or other materials and products identified on this label; (b) enclosed spaces and structures in which food products, agricultural commodities, or other materials and products identified on this label have been processed, transported, handled or stored; and, (c) when this product is used for the foregoing purposes, storage areas, work areas and other areas which are located within or adjacent to the facility (such as employee break rooms, food service areas, or test kitchens) and which cannot be isolated from the treatment area may be considered part of the treatment area if they are evacuated of all persons who are not applicators or other fumigation handlers. DO NOT USE THIS PRODUCT IN residential structures or in public food service facilities (such as public restaurants) or for any purposes other than those described above.

#### **Application Restrictions**

- Two fumigation handlers must be present during the treatment period, at the initiation of aeration, and when testing for reentry to the treatment area. Only one fumigation handler needs to be present if monitoring is conducted remotely (from outside the treatment area).
- Fumigation handlers must be under direct on-site supervision of the certified applicator at the start of the fumigation, at the initiation of aeration, and when testing for reentry to the treatment area.
- Do not fumigate with this product when the temperature is below 40°F.
- Do not move trucks, trailers, or vans during fumigation. The aeration period must be completed before movement is allowed.

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### Respirator Requirements and Work Time Restrictions

Overview of required respiratory protection once methyl bromide has been introduced into the treatment area until the end of the aeration period:

Sites	When	Methyl Bromide Concentration	Required Respiratory Protection
Treatment Area, Secondary Aeration Location, Treatment Buffer Zone, and Aeration Buffer Zone	<ul style="list-style-type: none"> <li>• During Treatment Period (Treatment Area only)</li> <li>• Installing portable exhaust systems</li> <li>• Opening tarps for aeration</li> </ul>	Any or unknown.	Supplied Air or SCBA respirator
	<ul style="list-style-type: none"> <li>• During Treatment Period (all areas except Treatment Area)</li> <li>• During Aeration Period</li> <li>• Removing tarps</li> </ul>	> 5.0 ppm or unknown	Supplied Air or SCBA respirator
		≤ 5.0 ppm	(i) APR along with air monitoring, OR  (ii) No respiratory protection required if following the Work Time Restrictions
	<ul style="list-style-type: none"> <li>• Commodity Released</li> </ul>	n/a	No respiratory protection required.

#### Respirator Requirements:

Once methyl bromide has been introduced into the treatment area, fumigation handlers entering the treatment area, a buffer zone, or secondary aeration location must wear either a supplied air respirator (NIOSH approval number prefix TC-19C) or a self-contained breathing apparatus (SCBA) (NIOSH approval number prefix TC-13F) when:

- the concentration of methyl bromide is unknown,
- installing portable exhaust systems,
- opening tarps for aeration,
- removing tarps (when concentrations under the tarp are above 5 ppm or unknown).

#### *Treatment Area and Secondary Aeration Location*

Any fumigation handler entering the treatment area during the treatment period must wear either a supplied air respirator (NIOSH approval number prefix TC-19C) or a self-contained breathing apparatus (SCBA) (NIOSH approval number prefix TC-13F).

Any fumigation handler entering the treatment area or secondary aeration location during the aeration period must either (1) wear a respirator listed in the **PPE Section** of this label, or (2) follow the Work Time Restrictions in this section.



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### *Treatment buffer zones and aeration buffer zones*

Fumigation handlers entering a treatment buffer zone or aeration buffer zone must either (1) wear a respirator listed in the **PPE Section** of this label, or (2) follow the Work Time Restrictions in this section.

### *Respiratory Protection when Monitoring Air Concentrations*

If methyl bromide concentrations are measured to be 5.0 ppm or less, and the Work Time Restrictions are not followed, fumigation handlers may wear the following respirator instead of the supplied-air or SCBA respirator:

- a NIOSH-certified half-mask or full-face piece air-purifying respirator with a cartridge certified by the manufacturer for protection from exposure to methyl bromide at concentrations up to 5.0 ppm (e.g., a 3M air-purifying respirator equipped with 3M Model 60928 Organic Vapor/Acid Gas/P100 cartridges).

When an air-purifying respirator is worn, the following air monitoring procedures must be followed to ensure that the 5.0 ppm upper protection limit of the air-purifying respirator plus respirator cartridge is not exceeded:

- Air monitoring samples for methyl bromide must be collected at least every hour in the fumigation handler's breathing zone. See the 'Monitoring Locations' section of this label for directions on where samples must be measured.

If any air sample is greater than 5.0 ppm for methyl bromide:

- All fumigation handlers wearing air-purifying respirators must either:
  - be removed from the treatment buffer zone and/or aeration buffer zone, or
  - put on a supplied-air respirator (NIOSH approval number prefix TC-19C), or a self-contained breathing apparatus (SCBA) (NIOSH approval number prefix TC-13F).
- Fumigation handlers can resume work activities with an air-purifying respirator if all of the following conditions exist:
  - Two consecutive air samples for methyl bromide taken at the work site at least 15 minutes apart must be less than or equal to 5.0 ppm, and
  - New cartridges have been installed.

During the collection of air samples after an air sample has measured greater than 5.0 ppm, a supplied-air respirator or an SCBA must be worn by the fumigation handler taking air samples or testing must be done remotely. New samples must be taken where the previous samples exceeded 5.0 ppm.

### **Work Time Restrictions:**

#### *Initial Test*

The concentration of methyl bromide must be measured with an Initial Test using either:  
-- a continuous real-time detection device (such as an IST sensor, PureAire monitoring system, or MiniRAE monitor) with a sensitivity at least 0.5 ppm for methyl bromide. Fumigation handlers using a continuous real-time detection device do not have to wear a respirator unless or until a measurement of 1.0 ppm or greater is obtained. The type of monitoring device must be recorded. Measurements, the date, time, and location of the measurement must be recorded at least every 15 minutes.

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-- a direct reading detection device, such as a Matheson-Kitagawa, Draeger, or Sensidyne device, or a suitable electronic device, capable of accurately measuring methyl bromide levels with a sensitivity of at least 0.5 ppm for methyl bromide. Persons using direct read detection devices must follow manufacturer's directions. Fumigation handlers taking the Initial Test must wear either a supplied-air respirator (NIOSH approval number prefix TC-19C), or a self-contained breathing apparatus (SCBA) (NIOSH approval number prefix TC-13F).

- The Initial Test must be performed as required in the 'Monitoring Locations' instructions below.
- The Initial Test may be repeated prior to the subsequent entry of fumigation handlers using the Work Time Restrictions. Fumigation handlers must follow the Work Time Restrictions triggered by the monitoring at the time they enter the area.
- If at any time air concentrations exceed 5.0 ppm, then fumigation handlers must either wear an SCBA or supplied air respirator or move outside the buffer zone area.
- The type of monitoring device and the measurements taken must be recorded.
- The results of the Initial Test are used to determine the Maximum Entry Time, the length of time work is allowed without respiratory protection within (i) the treatment buffer zone; (ii) the aeration buffer zone; (iii) the treatment area during aeration; and (iv) secondary aeration location. This does not include time spent outside these areas.
- Additional monitoring is required during the Work Time Restriction period according to schedules set forth in the Work Time Restrictions table until work has ceased or the Work Time Restriction period has expired, whichever occurs sooner. If any subsequent tests indicate a higher concentration, the Work Time Restrictions for the higher concentration must be followed. If any subsequent tests are lower, the Work Time Restrictions for the higher concentration remain in effect.

*Monitoring Locations:*

- Air monitoring must be performed within the fumigation handler's breathing zone where work functions will be performed. The monitoring location(s) must be recorded in the FMP.
- Breathing zones are defined as areas where individuals typically stand, sit or lie down while performing work functions.

*Work Time Restrictions Air Monitoring Schedule*

Use the following work time and air monitoring schedule for each 24 hour period. If more than the Maximum Entry Time has elapsed since the last test, an SCBA or supplied air respirator must be worn during testing or testing must be done remotely. For fumigation handlers who may be involved in multiple methyl bromide fumigations within a continuous 24 hour period, the maximum entry time is cumulative across all methyl bromide fumigations within that continuous 24 hour period.

<b>TABLE I. WORK TIME RESTRICTIONS</b>		
<b>Levels Allowed Per Test</b>	<b>Air Monitoring Required</b>	<b>Maximum Entry Time per continuous 24 hours</b>
		(time allowed without respiratory protection inside the Treatment Buffer Zone, Aeration Buffer Zone,

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		Treatment Area During Aeration, and Secondary Aeration Location)
>3.0 to 5.0 ppm	Initial Test requires taking 2 samples at least 15 minutes apart. Both sampling results must be less than the 'Maximum Level Allowed Per Test'. Take additional sample once every 30 minutes after entry until work ends, the aeration period ends, or the Maximum Entry Time expires, whichever is sooner.	90 Minutes (1 Hour and 30 Minutes)
>2.0 to 3.0 ppm	Initial Test requires taking 2 samples at least 15 minutes apart. Both sampling results must be less than the 'Maximum Level Allowed Per Test'. Take additional sample once per hour after entry until work ends, the aeration period ends, or the Maximum Entry Time expires, whichever is sooner.	160 Minutes (2 Hours and 40 Minutes)
>1.0 to 2.0 ppm	Initial Test requires taking 2 samples at least 15 minutes apart. Both sampling results must be less than the 'Maximum Level Allowed Per Test'. Take additional sample once every two hours after entry until work ends, the aeration period ends, or the Maximum Entry Time expires, whichever is sooner.	240 Minutes (4 Hours)
> 0 to 1.0 ppm	Initial Test requires taking 2 samples at least 15 minutes apart. Both sampling results must be less than the 'Maximum Level Allowed Per Test'. Take additional sample once every two hours after entry until work ends, the aeration period ends, or the Maximum Entry Time expires, whichever is sooner.	480 Minutes (8 Hours)
No Detectable Amount	Initial Test requires taking 2 samples at least 15 minutes apart. Both sampling results must be less than the 'Maximum Level Allowed Per Test'. Take additional sample once every two hours after entry until work ends, or the aeration period ends, whichever is sooner. After entry, testing may be discontinued after two consecutive No Detectable Amount results.	No Limit

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### **Terms Used in This Labeling**

**Aeration Buffer Zone:** an area that extends from the point of methyl bromide emission from the treatment area (e.g., exhaust stack or building edge) to a specified distance where access is limited. Entry by any person except the certified applicator and authorized fumigation handlers under his/her direct supervision is prohibited except as provided in the *Exceptions to Buffer Zone Entry Restrictions* section of the label. The aeration buffer zone begins when aeration begins and ends when the air concentration of methyl bromide in the breathing zone of the treatment area for structural fumigation, or in the air space around the treated commodity is 5.0 ppm or less. Once the aeration buffer zone expires, *Respirator Requirements and Work Time Restrictions* continue only in the treatment area until the end of the aeration period.

**Aeration Period:** the period of time starting at the initiation of aeration and ending when the concentration of methyl bromide is 5.0 ppm or less as measured according to the directions in the *Aeration Period* section of the label and the minimum aeration time has elapsed.

**Business** (as referenced in the *Emergency Preparedness Measures* section): Structures and outdoor areas where business is conducted; e.g., offices, shops, equipment yards.

**Breathing Zone:** Areas where individuals typically stand, sit or lie down while performing work functions.

**Exhaust Stack:** A duct used to exhaust methyl bromide from the Treatment Area.

**Fumigation Site:** The location at which fumigation activities will be conducted, at a minimum encompassing the treatment area, buffer zones, and any secondary aeration locations.

**Fumigation Handlers:** Persons at the Fumigation Site involved in the fumigation, including the certified applicator and persons under his/her supervision. Fumigation handlers must be trained and equipped to use PPE according to label requirements. Does not include persons who do not enter the treatment area, treatment buffer zone, aeration buffer zone, or secondary aeration location.

**Mechanical Aeration:** The use of fans or any other mechanical devices to aerate or ventilate the treatment area. May also be referred to as “Active Aeration.”

**Owner:** Any person or company who has a present possessory interest (including leasehold, rental, or other) in the commodity or space being fumigated.

**Passive Aeration:** Non-mechanical ventilation (i.e. opening doors, windows or removing tarpaulin cover) of the treatment area.

**Release:** When control and responsibility for the commodity or structure is passed to the owner of the commodity or structure, responsible site manager, or other person designated by the owner.

**Remote Monitoring:** Monitoring conducted remotely is performed using a system set up in a treatment area or structure prior to the introduction of methyl bromide which allows the fumigation handler to check concentrations from outside the treatment area and without opening the treatment area. Inserting a hand-held device into the treatment area through a port or seam is not considered remote monitoring.

**Secondary Aeration Location:** A separate area where commodities may be moved for the continuation of aeration under the *Moving Commodity before Aeration Period is Complete* section of this label. The secondary aeration location must allow the free flow of air through the area and must not hold or contain concentrations of methyl bromide. The perimeter of the secondary aeration location extends 24-inches from the outermost treated commodity, or carton, pallet, or box containing the treated commodity. The secondary aeration location and associated restrictions terminate upon the end of the aeration period. Secondary aeration locations may include outdoor covered areas, car ports, and areas surrounded by mesh barriers.

**Start of the Fumigation:** The point in time at which methyl bromide is first introduced/delivered/dispensed into the air of the treatment area.

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**Treatment Area:** the structure, area or space which is, or was, enclosed or sealed to contain methyl bromide during the fumigation and continuing until the commodity or structure is moved or released.

**Treatment Buffer Zone:** an area surrounding a treatment area during the treatment period (exposure or holding period) where access is limited. The treatment buffer zone extends from the perimeter of the treatment area to a distance determined by this label. Entry by any person except the certified applicator and authorized fumigation handlers under his/her direct supervision is prohibited except as provided in the *Exceptions to Buffer Zone Entry Restrictions* section of the label. The treatment buffer zone begins when the fumigant is introduced into the fumigation enclosure and ends when aeration begins.

### **Buffer Zones**

The appropriate treatment buffer zone and aeration buffer zone must be determined using the EPA's Methyl Bromide Commodity Fumigation Buffer Zone Lookup Tables located at [epa.gov/pesticide-registration/mbcommoditybuffer](http://epa.gov/pesticide-registration/mbcommoditybuffer). The appropriate treatment buffer zone and the aeration buffer zone distances must be used and must be included in the site-specific fumigation management plan.

*Minimum Buffer Zones:* The minimum treatment or aeration buffer zone is 10 feet.

#### *Buffers and Buildings:*

If the treatment area is contained within a closed building (exterior windows, doors, ventilation intakes, and other openings are closed), the entire building must follow all buffer zone restrictions, even if the calculated treatment buffer zone distance would not encompass the entire building.

If the treatment area is within an opened building (all exterior windows, doors, and other openings are open), then only the area within the buffer zone must follow the buffer zone restrictions.

The treatment and aeration buffer zones extend into nearby buildings unless all openings (exterior windows, doors, ventilation intakes, and other openings) inside the buffer zone are closed or sealed.

#### *Buffer Zone Overlap:*

If treatment or aeration buffer zones overlap from more than one methyl bromide fumigation, then to determine the treatment and aeration buffer zone the certified applicator must:

- calculate the ***total volume fumigated*** for all the sites.
- select the ***highest application rate*** from the multiple fumigations,
- select the ***lowest percent retained*** from the multiple enclosures, and
- select the ***longest air exchange interval***.

Using those inputs, look up the buffer zone size. This buffer zone distance must be used for both the treatment and aeration buffer zones for each site.

### **Buffer Zone Entry Restrictions**

Entry by any person, except the certified applicator supervising the fumigation, or persons under his/her direct supervision, is prohibited in the treatment buffer zone and in the aeration buffer zone.



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Authorized persons who enter the treatment or aeration buffer zones must follow the personal protective equipment requirements specified for fumigation handlers on this labeling.

If a structure within the treatment buffer zone or the aeration buffer zone is not occupied, ensure that persons do not enter the structure until the aeration buffer zone is terminated. For structures that have been vacated, persons may not re-enter until one air sample for methyl bromide, taken in the breathing zone on each floor of the structure after the termination of the aeration buffer zone indicates 1.0 ppm or less methyl bromide. The sampling requirement does not apply to unoccupied buildings used for storage (e.g. sheds, barns, garages).

Local, state, or federal officials performing inspection, sampling, or other similar official duties related to the fumigation are not excluded from the treatment area, treatment buffer zone, or aeration buffer zone by this labeling. The certified applicator supervising the application and the owner of the establishment where the application is taking place are not authorized to, or responsible for, excluding those officials from the treatment area, treatment buffer zone, or aeration buffer zone.

**Exceptions to Buffer Zone Entry Restrictions:** Two exceptions are permitted to enter the treatment buffer zones and aeration buffer zones.

- 1. Occupied Structure Exception:** Occupants of a structure that is within the treatment and/or aeration buffer zone may remain in the structure, *provided* continuous real-time monitoring indicates that methyl bromide concentrations are 1.0 ppm or less within the occupied structure. Fumigation handlers must monitor the air concentrations. This exception only applies to structures occupied by occupational workers. It does not apply to homes, apartment buildings, schools, hospitals, nursing homes, employee housing centers, or other prohibited sites. To use this exception, the FMP must state the distance of the occupied structure to the treatment area, the method of conducting the real time monitoring for methyl bromide during the period when the treatment buffer zone and aeration buffer zone are in force, and specific procedures for immediate intervention, such as cessation of aeration, evacuation of building, or other procedures if the concentration of methyl bromide exceeds 1.0 ppm at any time.
- 2. Transit Exception:** Limited transit through treatment and aeration buffer zones is allowed if brief and unavoidable. Routine or repeated work-related tasks are prohibited in the buffer zones. No person is allowed to transit through a buffer zone for more than 30 cumulative minutes in a 24-hour period. To use this exception, the FMP must state the distance from the treatment area to areas where transit is anticipated, the estimated length of time persons in transit will be in the buffer zone, and the rationale why transit through the buffer zone will not exceed 30 minutes. No transit exception when horizontal exhaust stacks are used.

### **Placarding of Treatment Areas**

The certified applicator in charge of the fumigation (or someone under his/her supervision) must placard all entrances to the treatment area with signs bearing:

- skull and crossbones symbol
- "DANGER/PELIGRO,"
- "Area under fumigation, DO NOT ENTER/NO ENTRE,"
- "Methyl Bromide Fumigant in use,"
- the date and time of fumigation, and
- name, address, and telephone number of the certified applicator in charge of the fumigation.



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Do not enter or allow entry by anyone other than fumigation handlers into the treatment area until the signs are removed. Such signs must only be removed when aeration has occurred and when the air concentration level of methyl bromide is monitored as described in this labeling and indicates that handlers can enter without respiratory protection. Signs must remain legible during entire posting period.

The warning signs at entrances to fumigated structures may only be removed by the certified applicator in charge of the fumigation (or someone under his/her supervision).

### **Aeration Period**

The aeration period starts at the end of the treatment period and continues until:

- The concentration of methyl bromide is measured to be 5.0 ppm or less AND
- The minimum time specified below has elapsed:
  - 4 hours, if using mechanical aeration; OR
  - 12 hours, if using passive aeration.
- Exceptions to the Minimum Time Requirement:
  - For vacuum chambers at least 4 Air Washes must be done before the commodity can be moved from the chamber. An Air Wash is an alternating cycle of pressurizing and depressurizing a vacuum chamber to achieve aeration. Vacuum chambers accelerate the rate of desorption of the methyl bromide.
    - If this exception is used, the FMP must explain the designation of the vacuum chamber and the number of air exchanges per hour.

Taking Concentration Measurements:

- For measurements intended to release or move a commodity, stop fans.
- Take concentration measurements in the air space around the treated commodity and, when feasible, inside cartons or boxes.
- For structural fumigations, take concentration measurements in the breathing zone of the area of the structure to be released.

Moving Commodity before Aeration Period is Complete:

For commodities treated at normal atmospheric pressure, fumigated commodities may be moved from the treatment area to continue aeration in a Secondary Aeration Location provided:

- the concentration of methyl bromide is measured to be 5 ppm or less as specified in the *Taking Concentration Measurement* section of this label,
- at least ten air exchanges have been completed in the treatment area; and
- during removal of commodity from fumigation chambers, all aeration fans must continue to run while handlers enter and exit the chamber to remove the commodity.

The Treatment Area PPE, Respirator Requirements & Work Time Restrictions, and monitoring requirements apply to the secondary aeration location to which the fumigated commodity is moved, beginning at the time it is moved and ending at the termination of the aeration period.

If a combination of aeration techniques is used, the minimum aeration time may be prorated to reflect the techniques used. For example, if two hours of mechanical aeration occur in the

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treatment area before the commodity is moved to a storage area, then that constitutes one-half of the required minimum aeration time (2 hours out of 4 hours for mechanical aeration). If the separate area uses passive ventilation, then the separate area would have to be passively ventilated for at least 6 hours (one half of the 12 hours for passive ventilation) before handlers would be permitted to handle the treated commodity.

Commodities aerated using a combination of aeration techniques may be released when the concentration of methyl bromide in the air space around the commodity is measured to be 5.0 ppm or less and the prorated minimum aeration time has been completed.

Record the location and time when the commodity was moved and method for achieving 10 air exchanges in the pesticide application record.

Releasing Fumigated Commodities and Structures:

- After the aeration period is completed by one of the aeration methods above, the commodity or structure may be released.
- After the commodity or structure is released, record the date and time of the release in pesticide application records.
- Record the concentration reading date, time, and concentration measured, in pesticide application records.

### **Emergency Preparedness Measures**

For each residence or business within 50 feet of the treatment or aeration buffer zones, the certified applicator must follow the directions below for either

- Option 1 – Fumigant Site Monitoring, or
- Option 2 –Information for Neighbors.

Option 1 – Fumigant Site Monitoring: NOTE: Fumigant Site Monitoring is required ONLY if directions in the Response Information for Neighbors section below are not followed.

From the start of the application until the aeration buffer zone period expires, a certified applicator or fumigation handler(s) under his/her supervision must:

- Monitor for methyl bromide with a direct read device in areas between the buffer zone perimeter and residences and businesses that trigger this requirement.
- Monitoring must begin within 1 hour of the start of the application and continue until the buffer zone period expires with a minimum of 2 air samples taken at least 1 hour apart every 6 hours during the buffer zone periods.
- If this option is selected:
  - The FMP must include the certified applicator's plans for where, when, and how monitoring will be performed.
  - Air sampling results must be recorded.
- Implement the emergency response plan immediately if an air sample is greater than or equal to 1.0 ppm for methyl bromide.

Option 2 –Information for Neighbors: NOTE: Information for Neighbors is required ONLY if directions in the Fumigant Site Monitoring section above are not followed.

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The certified applicator supervising the application must ensure that residences and businesses that trigger the requirement have been provided the following information at least 1 week before the first fumigation begins and must be repeated annually or within 30 days of a change in the FMP, whichever occurs first.

- That methyl bromide fumigation(s) will take place
- The location(s) of the treatment area (s)
- Name of the product(s) to be used and the EPA Registration number(s)
- Contact information for the certified applicator(s) supervising the fumigation(s)
- Time period(s) when the application(s) is/are planned to take place (must not exceed 1 year from the date the information is provided)
- Signs and symptoms of exposure to methyl bromide. See “*Note to Physician*” section of this label.
- What to do and who to call if you believe you are being exposed (911 in most cases).

The Response Information for Neighbors may be provided through mailings, door hangers, or other methods that effectively communicate the information above to the residents and/or business owners/operators.

#### **Site- Specific Fumigation Management Plan (FMP)**

Prior to fumigating, the certified applicator supervising the fumigation must verify that a site-specific fumigation management plan (FMP) exists. The FMP is intended to ensure a safe and effective fumigation. The certified applicator in charge of the fumigation is responsible for working with the owners and/or responsible employees of the site to be fumigated to develop a site-specific FMP. The certified applicator supervising the fumigation must ensure that the FMP is up-to-date and applicable to the fumigation before it takes place.

Before the start of any fumigation, the certified applicator supervising the fumigation must verify in writing (sign and date) that the FMP reflects current site conditions and that it addresses all elements identified in this labeling.

For situations where an initial FMP is developed and certain elements do not change for the fumigation, only elements that have changed need to be updated in the site-specific FMP provided that the certified applicator supervising the application has verified that those elements are current and applicable to the fumigation site before the fumigation begins, and record-keeping requirements are followed for the entire FMP (including elements that do not change).

The FMP must document the characteristics of the site, the treatment and aeration area buffer zones and appropriate monitoring and notification requirements consistent with, but not limited to, the following:

1. The Certified Applicator, or a person under his/her supervision, must inspect the site to determine its suitability for fumigation.
2. Before fumigating a structure, the Certified Applicator, or a person under his/her supervision, must consult available previous records for any changes to the structure, potential leaks and monitoring of adjacent, occupied buildings.
3. The Certified Applicator, or a person under his/her supervision, prior to each fumigation must review any available existing FMPs, MSDS, methyl bromide label and other relevant

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- safety procedures for the specific location or site, and consult with owners (whose structure or commodity is fumigated) and appropriate employees, if available.
4. The Certified Applicator, or a person under his/her supervision, must develop procedures and appropriate safety measures for nearby handlers and public personnel who will be in and around the area during fumigation and aeration and consult owners, if available.
  5. The Certified Applicator, or a person under his/her supervision, must develop an appropriate exterior monitoring plan that will conform with the requirements of the treatment and aeration area buffer zones to ensure that nearby handlers and bystanders are not exposed to levels above the allowed limits during fumigation and aeration and consult with owners, if available.
  6. The Certified Applicator, or a person under his/her supervision, must develop procedures for notification of local emergency responders in the event of an emergency (Emergency Response Plan) and consult with owners, if available.
  7. The Certified Applicator, or a person under his/her supervision, must confirm the placement of warning placards around the fumigation site as described on the label.
  8. The Certified Applicator, or a person under his/her supervision, must confirm the required safety and monitoring / clearance equipment (including that required for entry into an area under fumigation) is in place and the necessary, trained fumigation handlers are available to complete a safe, effective fumigation.
  9. The Certified Applicator, or a person under his/her supervision, must determine the proper Treatment Buffer Zone and Aeration Buffer Zones according to the methyl bromide product label and record the application rate, fumigated volume, and other parameters used to determine the buffer distances.

Elements of the FMP may be fulfilled through the use of supplemental documents such as service reports, facility maps, facility emergency plans, state or federally required forms, and other supplemental documents prepared for or used during the actual fumigation.

### **Recordkeeping**

The certified applicator's employer or the certified applicator supervising the fumigation must maintain all records required under the provisions of this label including the FMP and supplemental documents used to fulfill FMP requirements, information on incidents and complaints, and all air monitoring results for two years from the date of the fumigation. During the two-year period following a fumigation, these records must be made available upon request to any local, state, tribal, or federal pesticide enforcement personnel.

During the treatment and aeration buffer zone periods, the certified applicator must make a copy of the FMP and the associated Material Safety Data Sheets (MSDS) available for viewing by all fumigation handlers. The certified applicator must ensure the FMP is available upon request at the fumigation site while the buffer zones are in effect.

Records of air monitoring results must include:

- Date of fumigation,
- Monitoring equipment used,
- Location and time of each required sample, and
- Concentration of methyl bromide found for each required sample.

Records of spills, equipment failures and other emergencies must include:

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- Description of what happened
- Emergency procedures followed
- Whether the incident was reported to the state lead agency or other agency.

Records of complaints related to the fumigation received by the applicator during or after the fumigation must include:

- Contact information for the person filing the complaint
- Description of control measures or emergency procedures followed after the complaint, if any.

### **SPILL AND LEAK PROCEDURES**

In case of a rupture of a hose or fitting while applying fumigant, immediately stop the fumigation. Evacuate everyone from the immediate area of spill or leak.

Only applicators or other fumigation handlers, or emergency responders, are permitted to perform corrective action and cleanup. Use personal protective equipment specified in the Personal Protective Equipment (PPE) section of this labeling for entry into affected area to correct problem. Move leaking or damaged cylinders or containers outdoors or to an isolated location, observing strict safety precautions. Work upwind if possible. Allow spill to evaporate. Do not permit entry into spill area by unprotected persons until concentration of methyl bromide is determined to be less than 1.0 ppm. For concentrations of methyl bromide over 1.0 ppm, see the Respirator Requirements and Work Time Restrictions section of this label for additional directions.

Contaminated soil, water and other cleanup debris is a toxic hazardous waste. Report spill to the National Response Center (800-424-8802) if the reportable quantity of 1000 pounds is exceeded.

## **Storage and Disposal**

Do not contaminate water, food, or feed by storage or disposal.

### **Pesticide Storage**

Store in a dry, cool, well-ventilated area under lock and key. Post as a pesticide storage area. Persons moving, handling, or opening fumigant containers must wear the personal protective equipment (including prescribed respirators when necessary) specified in the *Personal Protective Equipment* section of this labeling. Store cylinders upright, secured to a rack or wall to prevent tipping. Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs or similar devices to unload cylinders. Transport cylinders using hand truck, fork truck or other device to which the cylinder can be firmly secured. Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

### **Pesticide Disposal**

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### **Container Handling**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. When cylinder is empty, close valve, screw safety cap onto valve outlet, and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose. Follow registrant's instructions for return of empty or partially empty cylinders.

### **Return of Cylinders**

Cylinders are the property of Cardinal Professional Products and should be returned promptly by collect auto freight. Return cylinders to Cardinal Professional Products, [8770 Highway 25, Hollister, CA 95023 c/o TriCal, Inc. 1667 Purdy Road, Mojave, CA 93501-7403](https://www.trical.com). Do not ship cylinders without safety caps or valve protection bonnets. When a cylinder is partially full and there is no further requirement for the product, contact the company for return instructions.



## COMMODITY FUMIGATION

This fumigant is a highly hazardous material and must be used only by individuals trained in its proper use. Before using, read and follow all label precautions and directions. All persons working with this fumigant must be knowledgeable about the hazards and trained in the use of required respirator equipment and detector devices, emergency procedures, and proper use of the fumigant.

- **Treatment Sites:** Under sealed tarpaulins, in flour mills, feed mills, spice mills, textile mills, warehouses, boxcars, fumigation vaults, flat or upright bulk grain storage, tobacco warehouses, food processing plants and cargo ships.
- **Preparation for Fumigation**
  1. Remove fresh fruit, seeds, bulbs and living plants from the area to be fumigated, as they may be damaged during treatment.
  2. Certain food crops require fumigation at times. Do not fumigate food products other than those for which a residue tolerance is registered with the Environmental Protection Agency (EPA).
  3. Do not use dosages higher than those specified.
  4. It is not recommended to fumigate grain if moisture is high, temperature is low (below 60°F), or there is excessive dockage.
  5. Commodity to be fumigated must be covered with tarpaulins and sealed, or in the case of boxcars, buildings and cargo ships, all external openings must be closed. Seal building roof ventilators and chimneys by wrapping them with a tarpaulin, or plastic sheet, or by stripping the screened openings with a wide commercial masking tape. Stairwells and interior doors must be closed. Any broken windowpanes must be replaced, then exterior doors and windows must be wedged tight, locked, and cracks caulked or taped. Check for cracks in the floor, roof and around eaves and seal them.
  6. Special care must be taken to seal off adjacent storage or work areas of treatment sites that are not to be fumigated. Adjoining structures sharing a common wall must follow the requirements in the *Buffers and Buildings* section. If occupants are present, spread a glossy-type building paper along the adjoining wall to prevent spread of the fumigant into undesired areas. Sisal Kraft paper, asphalt-laminated paper, heavily oiled Kraft or wrapping paper and plastic film are appropriate. In all such cases where the adjoining structure is occupied, it must be monitored as specified in the *Occupied Structure Exemption* section. Check local regulations for specific requirements.

## PROCEDURES FOR SHIP FUMIGATION

**IMPORTANT:** Shipboard, intransit ship or shiphold fumigation is also governed by U.S. Coast Guard Regulations. Refer to and comply with these regulations prior to fumigation.

### Preparation for Ship Fumigation

1. Prior to fumigating a vessel for intransit cargo fumigation, the master of the vessel or his representative, and the fumigator must determine whether the vessel is suitably designed and configured so as to allow for safe occupancy by the ship's crew throughout the duration of the fumigation. If it is determined that the design and configuration of the vessel does not allow for safe occupancy by the ship's crew throughout the duration of the fumigation, then the vessel will not be fumigated unless all crew members are removed from the vessel. The crewmembers will not be allowed to reoccupy the vessel until the vessel has been properly aerated as required in the *Aeration Period* section and a determination has been made by the master of the vessel and the fumigator that the vessel is safe for occupancy.
2. The person responsible for the fumigation must notify the master of the vessel, or his representative, of the requirements relating to personal protection equipment\*, detection equipment and that two persons qualified in the use of this equipment must accompany the vessel with cargo under fumigation. Emergency procedures, cargo ventilation, periodic monitoring and inspections, and first aid measures must be discussed with and understood by the master of the vessel or his representative.

3. During the fumigation and until the cargo is aerated as required in the *Aeration Period* section of this label, the person in charge of the fumigation shall insure that a qualified person using gas or vapor detection equipment tests spaces adjacent to spaces containing fumigated cargo and all regularly occupied spaces for fumigation leakage. If leakage of the fumigant is detected, the person in charge of the fumigation shall take action to correct the leakage, or shall inform the master of the vessel, or his representative, of the leakage so that corrective action can be taken.
4. If the fumigation is not completed and the vessel aerated before the manned vessel leaves port, the person in charge of the vessel shall ensure that at least two units of personal protection equipment and one gas or vapor detection device, and 2 persons qualified in their operation be on board the vessel during the voyage.

\*"Personal protection equipment" means a gas mask or respirator for the fumigant, jointly approved by the *Mining Enforcement and Safety Administration* and the *National Institute of Occupational Safety and Health*, as specified in the *PPE* section.

Directions and Restrictions during Voyage: If it is necessary for a fumigation handler to enter holds at any time prior to the release of the fumigated commodity, refer to the *Respirator Requirements and Work Time Restrictions* section for further information.

### APPLICATION INSTRUCTIONS

Release Methyl Bromide through a heat exchanger or suitable leak proof tube (such as polyethylene) from outside of structure. If it is necessary to release fumigant from inside of structure, refer to the *Personal Protective Equipment (PPE)* section for required equipment. Operate electric fan(s) for a minimum of 30 minutes after release to accelerate distribution of gas.

**TABLE II. USES AND RATES**

Stored Raw Agricultural Commodities (Not Processed Food)					
Commodity -- Nuts :	Pests Controlled	Dosage (lbs/1000ft <sup>3</sup> )	Exposure Time (hrs)	Tolerance (ppm)	Remarks:
Almonds	confused flour beetle, saw toothed grain beetle, dermestids, Indian meal moth, rice weevil, khapra beetle, drugstore beetle, cigarette beetle, warehouse moth, rusty grain beetle, cadelle, groundnut bruchid, pecan weevil, naval orange worm, almond moth, dried fruit beetle, ants	3.5	12-24	200	
Brazil Nuts		3.5	12-24	200	
Cashews		3.5	12-24	200	
Chestnuts		3.5	24	200	Vacuum chamber, 4 air washes
		6	6		
Hazelnuts (Filberts)		3.5	12-24	200	
Hickory Nuts		3.5	12-24	200	
Macadamia Nuts (Bushnuts)		3.5	12-24	200	
Pecans		3.5	12-24	200	
Pistachios		3.5	12-24	200	
Walnuts		3.5	12-24	200	

Commodity -- Fresh Fruits & Vegetables :	Pests Controlled	Dosage (lbs/1000ft <sup>3</sup> )	Exposure Time (hrs)	Tolerance (ppm)	Remarks:
Apples	fruit flies, oriental fruit moth, codling moth, apple maggot, apple curculio, twig borer, melon fruit fly, Mediterranean fruit fly, Oriental fruit fly, cherry fruit fly, brown mite, green peach aphid, scales, thrips, ants	1-4	3	5	
Apricots		1-4	3	20	
Blueberries		1-4	3	20	
Cherries		5	2	20	
Nectarines		1-4	3	20	
Peaches		1-4	3	20	
Pears		1-4	3	5	
Plums		1-4	3	20	
Quinces		1-4	3	5	
Strawberries		3	3-4	60	
Grapefruit		<i>Anastrepha spp.</i> , <i>Proeulia spp.</i> , <i>Leptoglossus spp.</i> , <i>Megalometis spp.</i> , <i>Naupactus spp.</i> , <i>Listroderes spp.</i> , <i>Conoderus spp.</i> , <i>Bravipalpus spp.</i> , aphids, citrus scale, citrus mite, leaf rollers, white flies, thrips, California orange dog, mealybugs, orange tortrix, fruit flies, ants	1-4	3	30
Grapes	1-4		3	20	
Kumquat	1-4		3	30	
Lemons	1-4		3	30	
Limes	1-4		3	30	
Oranges	1-4		3	30	
Tangelos	1-4		3	30	
Tangerines	1-4		3	30	
Beets (roots)	1-4		3	30	
Cabbage	1-4		3	50	
Cantaloupe	1-4		3	20	
Carrots (roots)	1-4	3	30		
Citron	1-4	3	30		
Cucumbers	1-4	3	30		
Eggplant	1-4	3	20		
Honeydew Melon	1-4	3	20		
Jerusalem Artichoke	1-4	3	30		
Muskmelon	1-4	2	20		
Okra	1-4	3	30		
Onions (bulb & green)	1-4	3	20		
Parsnips (roots)	1-4	3	30		
Peppers	1-4	3	30		
Pimentos	1-4	3	30		

Pineapple	maggot, Colorado potato beetle, potato psyllid, squash bug, squash vine borer, earwigs, darkling beetle, ants	1-4	3	20	
Potatoes		1-4	3	75	
Pumpkins		1-4	3	20	
Radishes		1-4	3	30	
Rutabagas (roots & tops)		1-4	3	30	
Squash (summer)		1-4	3	30	
Squash (winter)		1-4	3	20	
Squash (zucchini)		1-4	3	20	
Sweet corn		1-4	3	50	
Sweet potatoes		1-4	3	75	
Tomatoes		1-4	3	20	
Turnips (roots)		1-4	3	30	
Watermelons		1-4	3	20	
Yams		1-4	3	75	
<b>Commodity -- Grains:</b>	<b>Pests Controlled</b>	<b>Dosage (lbs/1000ft<sup>3</sup>)</b>	<b>Exposure Time (hrs)</b>	<b>Tolerance (ppm)</b>	<b>Remarks:</b>
Barley, grain	granary weevil, lesser grain borer, rusty grain beetle, Angoumois grain moth, Indian meal moth, confused flour beetle, rice weevil, saw toothed grain beetle, cadelle, khapra beetle, drugstore beetle, Australian spider beetle, cigarette beetle, warehouse moth, common grain mite, flat grain beetle, Mediterranean flour moth, red flour beetle, common bean weevil, copra beetle, fruit fly, ants	3	24	50	Use forced recirculation for bulk bins.
Field corn, grain		2	24	50	
Oats		3	24	50	
Rice, grain		3	24	50	
Rye, grain		3	24	50	
Sorghum, grain		4	24	50	
Wheat		3	24	50	

Commodity -- Miscellaneous :	Pests Controlled	Dosage (lbs/1000ft <sup>3</sup> )	Exposure Time (hrs)	Tolerance (ppm)	Remarks:
Cocoa beans	cocoa moth, cigarette beetle, confused flour beetle, warehouse moth, flat grain beetle, coffee bean weevil, tobacco moth, saw-toothed grain beetle, ants	1-2	16-24	50	
Beans, dried	Indian meal moth, almond moth, cow pea weevil, armyworms, cabbage looper, European corn borer, Japanese beetle, pod borer, oriental fruit fly, Mediterranean fruit fly, corn earworms, green stink bug, sawbugs, spider mites, cabbage maggots, lygus bug, melon aphid, pickleworm, carrot rust fly, stink bug, bean leaf beetle, mexican bean beetle, Diabrotica beetle, loopers, symphylans, blister beetle, onion maggot, onion thrips, mealybugs, pepper maggot, Colorado potato beetle, potato psyllid, squash bug, squash vine borer, earwigs, darkling beetle, ants	2-3	24	50	
Peas, dried	Indian meal moth, almond moth, cow pea weevil, granary weevil, lesser grain borer, rusty grain beetle, Angoumois grain moth, confused flour beetle, rice weevil, saw toothed grain beetle, cadelle, khapra beetle, drugstore beetle, Australian spider	2-3	24	125	

	beetle, cigarette beetle, warehouse moth, common grain mite, flat grain beetle, Mediterranean flour moth, red flour beetle, common bean weevil, copra beetle				
Cipolini bulbs	<i>Exosoma lusitanica</i> , fruit flies, ants, mites	4	4	50	
		1-4	3		
Garlic	<i>Brachycera spp.</i> , <i>Dyspessa ulula</i> , brown wheat mite, onion maggot, onion thrips, fruit fly, ants	3	4	50	
		1-4	3		
Horseradish (roots)	<i>Baris lepidi</i> , fruit flies, ants	3	4	30	
		1-4	3		
Salsify roots	armyworms, flea beetle, leafhoppers, stink bugs, tarnished plant bug, fruit fly, ants	3	3	30	
		1-4	3		

Processed Food / Feed					
Commodity	Pests Controlled	Dosage (lbs/1000ft <sup>3</sup> )	Exposure Time (hrs)	Tolerance (ppm)	Remarks:
Dried Fruits	Indian meal moth, almond moth, dried fruit beetle, saw-toothed grain beetle, confused flour beetle, Australian spider beetle, cigarette beetle, warehouse moth, common grain mite, coffee bean weevil, carob moth, ants, merchant beetle	1-1.5	12-24	125	
Dried Figs	Indian meal moth, almond moth, dried fruit beetle, saw-toothed grain beetle, confused flour beetle, Australian spider beetle, cigarette beetle, warehouse moth, common grain mite, coffee bean weevil, carob moth, ants, merchant beetle	1-1.5	24	250	
Processed Food (including cured meats)	saw-toothed beetle, flat grain beetle, flour beetle, cigarette beetle, Indian meal moth, <i>Lepidoptera</i> , <i>Coleoptera</i> , ants, cheese skipper, larder beetle, red legged ham beetle, mites	1-2	12-24	125	



Processed Grains	flour beetle, saw-toothed grain beetle, Mediterranean flour moth, <i>Lepidoptera</i> , <i>Coleoptera</i> , ants	1-2	12-24	125	
Dog Food	Indian meal moth, cigarette beetle, saw-toothed grain beetle, flour beetle, Indian meal moth, <i>Lepidoptera</i> , <i>Coleoptera</i> , ants	1-2	12-24	400	

Non-Food Products					
Commodity	Pests Controlled	Dosage (lbs/1000ft <sup>3</sup> )	Exposure Time (hrs)	Tolerance (ppm)	Remarks:
Tobacco, baled	drugstore beetles, cigarette beetles, tobacco beetles, tobacco moth, <i>Lepidoptera</i> , <i>Coleoptera</i> , ants	2	48-72		Atmospheric
		4	4		Vacuum chamber, 4 air washes
Tobacco, processed		4	4		Vacuum chamber, 4 air washes
Cotton, baled	pink bollworm, boll weevil, <i>Lepidoptera</i> , <i>Coleoptera</i> , ants	3	24		Tarpaulin fumigation
		4	2		Vacuum chamber, 4 air washes
Machinery, packing & bagging material, miscellaneous non-food cargo (e.g. ceramic, marble, brassware, handicrafts, burlap, appliances)	Wood-boring insects, <i>Coleoptera</i> , mites, spiders, snails, cockroaches, <i>Lepidoptera</i> , <i>Hymenoptera</i>	2-6	24-72		
<u>Forest &amp; plant products (e.g., lumber, firewood, driftwood, pallets, crates, paper, cardboard, carvings, grapevine wreaths, dried plants, Spanish moss, bamboo, wicker, and mulch)</u>	Pinewood nematode, wood-borers, bark beetles, termites, carpenter ants, horntails, old house borer, powder post beetles, <i>Hymenoptera</i> , <i>Coleoptera</i> , woodworm, wharf borer, wood wasps, mites, <i>Lepidoptera</i> , psocids	3-6	16-24		
<u>Logs and lumber</u>	<u>Oak wilt and other timber pathogens</u>	<u>12-15</u>	<u>48-72</u>		
Steel	Saw-toothed grain beetle, flour beetle,	3-3.5	16-24		
Wood		3.5-4.5	16-24		

Vans, Trailers, Rail Cars	Indian meal moth	1-3	16-24		Do not move trucks, vans, or trailers on roadways during fumigation. They must be completely aerated according to the <i>Aeration Period</i> section before movement is allowed.
Vacuum Chambers		1-2	2-4		4 air washes
Cargo Ships	Saw-toothed grain beetle	1	10		Do not fumigate underway.
	Flour beetle	1	12		
	Indian meal moth	1.5	12		
Buildings*, warehouses, flour mills, food processing plants	Indian meal moth, warehouse beetle, saw-toothed grain beetle	1-3	16-24		Spaces containing commodities: Less than 100,000 cu. Ft.
		1-2	16-24		Spaces containing commodities: 100,000 - 500,000 cu. Ft.
		1-2	16-24		Spaces containing commodities: > 500,000 cu. Ft.

\* Use is strictly prohibited in residential structures including, but not limited to, single and multi-family residential properties, and daycare facilities. Use is also strictly prohibited in nursing homes, hotels, dormitories, schools, hospitals and public restaurants.

**NET CONTENTS:.....LBS.**

**WARRANTY**

Seller warrants that this product conforms to the chemical description on its label and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use. To the extent consistent with applicable law, the registrant assumes no responsibility for loss or damage due to required quarantine and trade fumigations using this product. Neither this warranty nor any other warranty of **MERCHANTABILITY** or **FITNESS FOR A PARTICULAR PURPOSE**, express or implied, extends to the use of this product in a manner contrary to its label.

**NOTICE:** Contains methyl bromide, a substance which harms public health and environment by destroying ozone in the upper atmosphere.