



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 20 2000

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Ms. Mardel Belotinsky
Regulatory Affairs Specialist
Soil Chemicals Corporation Products
P.O. Box 782
Hollister, CA 95024-0782

SUBJECT: Review of Amended Labeling
Methyl Bromide 98%
EPA Reg. No. 8536-19
Your Application Dated January 20, 2000

Dear Ms. Belotinsky:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable subject to the following condition:

On page 8, footnote (1), change "40°F" to "50°F" or justify this lower temperature.

If you have any questions, then please contact Terri Stowe of my staff at (703) 305-6117.

Sincerely,

A handwritten signature in cursive script that reads "Mary L. Waller".

Mary L. Waller
Product Manager (21)
Fungicide Branch
Registration Division (7505C)

Specimen Label

RESTRICTED USE PESTICIDE DUE TO ACUTE TOXICITY

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

Methyl Bromide 98%

A FUMIGANT FOR USE ONLY BY PROFESSIONAL FUMIGATORS

ACTIVE INGREDIENT: Methyl Bromide	98%
INERT INGREDIENT: Chloropicrin	2%
TOTAL:	100%

This product weighs 14.4 pounds per gallon.

**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

APR 20 2000

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

8536-19



**Soil
Chemicals
Corporation
PRODUCTS**

P. O. Box 782, Hollister, CA 95024

KEEP OUT OF REACH OF CHILDREN

DANGER



PELIGRO

POISON

PELIGRO: Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

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

FIRST AID

IF INHALED: Get exposed person to fresh air. Keep warm. Make sure person can breathe freely. If breathing has stopped, give artificial respiration. Give oxygen if needed. Do not give anything by mouth to an unconscious person. Seek medical attention.

IF ON SKIN: Immediately remove contaminated clothing, shoes, and other items covering the skin. Wash contaminated skin area thoroughly with soap and water.

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes.

NOTE TO PHYSICIAN

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.

See side panels for additional precautionary statements.

EPA Reg. No. 8536-19

EPA Est. 8536-CA-1

CA-2

CA-3

CA-4 ←

FL-1

NET CONTENTS.....LBS.

EPA Reg. No. 8536-19/11-5-99/label, front panel

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS:
DANGER**

EXTREMELY HAZARDOUS LIQUID AND VAPOR UNDER PRESSURE. INHALATION MAY BE FATAL OR CAUSE SERIOUS ACUTE ILLNESS OR DELAYED LUNG OR NERVOUS SYSTEM INJURY. DO NOT BREATHE VAPORS. LIQUID OR EXCESSIVE VAPOR CAN CAUSE SERIOUS SKIN OR EYE INJURY WHICH MAY HAVE A DELAYED ONSET. DO NOT GET LIQUID ON SKIN, IN EYES, OR ON CLOTHING.

THIS PRODUCT CONTAINS CHLOROPICRIN AS A WARNING ODORANT. CHLOROPICRIN MAY BE IRRITATING TO THE UPPER RESPIRATORY TRACT, AND EVEN AT LOW LEVELS CAN CAUSE PAINFUL IRRITATION TO THE EYES, PRODUCING TEARING. IF THESE SYMPTOMS OCCUR, LEAVE THE FUMIGATION AREA IMMEDIATELY.

AIR CONCENTRATION LEVEL

The acceptable air concentration level for persons exposed to chloropicrin is 0.1 ppm (0.7 mg/m³). The acceptable air concentration level for persons exposed to methyl bromide is 5 ppm (20 mg/m³), except that for entry into residential and commercial structures the acceptable air concentration level is 3 ppm. The air concentration level is measured by a direct reading detection device, such as a Zrager tube/pump.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Loose-fitting or well ventilated long-sleeved shirt and long pants or equivalent, e.g., coveralls
- Shoes and socks
- Full-face shield or safety glasses with brow and temple shields when handling liquid product (Do NOT wear goggles.)
- When the air concentration level of chloropicrin is above 0.1 ppm and the air concentration level of methyl bromide is above 5 ppm and a respirator is required, protect the eyes by wearing a full-face respirator.
 - No respirator is required, if the air concentration level of chloropicrin in the working area is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide in the working area is measured to be 5 ppm or less.
 - A respirator is required if the air concentration level of 0.1 ppm for chloropicrin OR 5 ppm for methyl bromide is exceeded at any time. The respirator must be one of the following types: (a) a supplied-air respirator (MSHA/NIOSH approval number prefix TC-19C) OR (b) a self-contained breathing apparatus (SCBA) (MSHA/NIOSH approval number prefix TC-13F). Under normal soil fumigation conditions, the air concentration level of chloropicrin will not generally exceed 0.1 ppm AND the air concentration level of methyl bromide in the working area will not generally exceed 5 ppm as a time-weighted average, and no respiratory protection is required. However, there is the possibility of a spill or leak during soil fumigation. Therefore, a respirator of a type specified above must be available and will be required for entry into an affected area in the event of a leak or spill.

WORK SAFETY REQUIREMENTS

- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Methyl bromide and chloropicrin are heavier than air and can be trapped inside clothing and cause skin injury.
- If liquid fumigant splashes or spills on clothing, remove them at once, as fumes will be an intolerable source of irritation.
- Immediately after contamination, remove outer clothing, shoes and socks, and do not reuse until thoroughly aerated or ventilated. Keep such clothing and shoes outdoors until thoroughly aerated. Then follow the PPE manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE and work clothing separately from other laundry.
- Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.
- Follow PPE manufacturer's instructions for cleaning/maintaining protective eyewear and respirators.

USER SAFETY RECOMMENDATIONS

Users should:

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

OBSERVE THE FOLLOWING PRECAUTIONS GENERAL PRECAUTIONS

1. Do not get in eyes, on skin or on clothing.
2. Do not spill or discharge contents outside of areas confined for treatment.
3. Comply with all local regulations and ordinances.
4. It is advisable to supply your physician with information on Methyl Bromide. Literature is available from your dealer or distributor.
5. Obtain medical assistance at once in case of illness after exposure, and do not allow conditions which could accidentally cause further exposure until recovery is complete. (See Note to Physician.)

PRECAUTIONS FOR SOIL FUMIGATION USE

PRIOR TO FUMIGATION

- Comply with all local regulations and ordinances. Obtain an application permit from Agricultural Regulatory Agencies as required.
- Never fumigate alone. It is imperative always to have an assistant and proper protective equipment in case of accidents.
- Drivers of application equipment must advise other workers of all precautions and procedures. In addition, drivers must instruct their helpers in the mechanical operation of the tractor and how to safely work with the tractor and driver while fumigating.
- Handle this fumigant in the open, with the operator "up wind" from the container where there is good ventilation.
- Check fumigant pressure system for leaks before beginning operation.
- Two trained persons must be present during introduction of the fumigant.
- When fumigating soil from a tractor, 5 gallons of water must be carried on the tractor and placed where it is readily accessible. In addition to water available on the tractor, at least 5 gallons of additional water must be available from the service truck. This water must be potable and in containers marked "Decontamination water not to be used for drinking."
- Field should be reasonably free of trash and in good tith before starting the fumigation.
- Post all treated areas with warning signs.

DURING FUMIGATION

- This fumigant should not be applied when there is an atmospheric inversion. Since uncomfortable concentrations of chloropicrin may drift to nearby areas, immediately cover treated area with plastic tarpaulin for a minimum of 48 hours when the shank injection depth is less than 10 inches.
- Do not lift injection shanks to turn at the end of a pass until fumigant has drained from system following closure of shutoff valve.
- If trash is inadvertently pulled by the shanks to the ends of the field when fumigating, it must be covered by lifting the shanks, then covering the trash with polyethylene film before making the turn for the next pass.
- When changing the cylinders, be certain they are turned off and fumigant system is not under pressure.
- Do not open the system when there are people or structures downwind where exposures above the permissible exposure levels could occur.

AFTER FUMIGATION

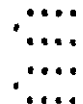
- Keep pets, livestock, and other domestic animals out of the treated area during application, during the exposure period as specified for applications in Directions for Use, and during removal of the tarpaulin.
- Two trained persons must be present during removal of the tarpaulin.

SPILL AND LEAK PROCEDURES FOR SOIL FUMIGATION

- In case of a rupture of hose or fitting while applying fumigant, immediately stop tractor and motor.
- Evacuate everyone from the immediate area of the spill or leak.
- Wear the personal protective equipment (including prescribed respirators) specified in the HAZARDS TO HUMANS section of this labeling for entry into affected area to correct problem.
- Approach from upwind to make necessary repairs.
- Do not enter area without the required PPE until the spill has evaporated or the leak has been fixed.
- 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 lbs. is exceeded.

NOTE CAREFULLY

- Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid, or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil tests made after fumigation. To avoid ammonia injury and/or nitrate starvation to crops, avoid using fertilizers containing ammonium salts and use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65° F. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.



PRECAUTIONS FOR STRUCTURAL, TRANSPORTATION OR SPACE FUMIGATION

GENERAL PRECAUTIONS:

- When used for fumigation of enclosed spaces (houses and other structures; warehouses; vaults; chambers; greenhouses; trucks, vans, boxcars, ships and other transport vehicles; and tarpaulin-covered areas), two persons trained in the use of this product must be present during introduction of the fumigant, initiation of aeration, and after aeration when testing for reentry. Two persons do not need to be present if monitoring is conducted remotely (outside the area being fumigated).
- Do not fumigate with this product when the temperature is below 40°F.
- Whenever possible, apply methyl bromide from outside of structure or car being fumigated. Make sure the fumigated area is properly sealed and posted. Do not move trucks, trailers, or vans during fumigation. They must be completely aerated before movement is allowed.

AERATION AND REENTRY:

- After fumigation, fumigated areas must be aerated until the air concentration level of chloropicrin is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide is measured to be 5 ppm or less (3 ppm for residential and commercial structures).
- Until the acceptable air concentration levels are reached, do not allow any person to enter into the fumigated area unless he/she is wearing the personal protective equipment (including prescribed respirator) specified in the Hazards to Humans section of this labeling. In greenhouses, additional Worker Protection Standard restrictions apply.
- For residential and commercial structural fumigations, specific USEPA instructions as detailed elsewhere in this product label and supplemental manual must be strictly followed.

SPILL AND LEAK PROCEDURES FOR ENCLOSED SPACE FUMIGATION:

- Evacuate everyone from the immediate area of the spill or leak.
- For entry into affected area to correct problem, wear the personal protective equipment (including prescribed respirators) specified in the Hazards to Humans section of this labeling.
- Move leaking or damaged containers outdoors or to an isolated location.
- Observe strict safety precautions.
- Work upwind, if possible.
- Allow spilled fumigant to evaporate.
- Only correctly trained and PPE-equipped handlers are permitted to perform such cleanup. Do not permit entry into the spill or leak area by any other person until the air concentration level of chloropicrin is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide is measured to be 5 ppm or less.
- 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 lbs. is exceeded.

CHEMICAL HAZARD

- 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 should 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. Do not permit water to be used to clean the fumigant pressure system as corrosion will result. Diesel oil is satisfactory for this purpose.
- The following materials can develop an undesirable odor when encountered in structural fumigation 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).
- 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.

ENVIRONMENTAL HAZARD

- This pesticide is toxic to wildlife. 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.
- For space fumigation use, monitor area immediately surrounding the fumigation site with a direct reading detection device, such as a Dräger tube/pump, during exposure and aeration periods to establish that dangerous levels of the fumigant are not present. The high volatility of the fumigant permits it to be vented from space being fumigated and to dissipate rapidly with no hazard to surrounding areas with correct monitoring.

DIRECTIONS FOR USE

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

PLACARDING OF FUMIGATED AREAS

The applicator (or supervisor of the application) must placard all entrances to the fumigated area with signs bearing:

- skull and crossbones symbol
 - "DANGER/PELIGRO"
 - "Area under fumigation, DO NOT ENTER/NO ENTREE"
 - "Methyl Bromide and Chloropicrin Fumigants in use"
 - the date and time of fumigation
 - name, address, and telephone number of the applicator
 - Boxcars must be placarded with D.O.T. specified warning signs.
- Do not allow entry by unprotected persons into the fumigated area until the signs are removed. Such signs must only be removed when the air concentration level of chloropicrin is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide is measured to be 5 ppm or less (3 ppm in residential and commercial structures). Signs must remain legible during the entire posting period. Warning signs are available from your dealer or distributor.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

STORAGE AND DISPOSAL

STORAGE AND HANDLING: Store in a secure manner either outdoors under ambient conditions or indoors in a well-ventilated area. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage. Persons moving, handling, or opening containers must wear the personal protective equipment (including prescribed respirators when necessary) specified in the Hazards to Humans section of this labeling. Open container only in a well-ventilated area. 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. 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 cylinder.

RETURN CYLINDERS TO: Soil Chemicals Corp. Soil Chemicals Corp.
8770 Highway 25 2060 E. 220th Street
Hollister, CA 95023 Long Beach, CA 90810

Cylinders are the property of Soil Chemicals Corporation and should be returned promptly by collect auto freight. 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.

SHIPPING: This fumigant is classified in the U.S. Department of Transportation Hazardous Materials Regulations as Methyl Bromide, 2.3. UN 1062, Poison-Inhalation Hazard, Hazard Zone C and no exemptions from specification, packaging, marking, or labeling are allowed. Describe empty cylinders as having last contained Methyl Bromide (inhalation hazard). Do not ship with foods, feeds, or clothing.

DISPOSAL: Do not contaminate water, food, or feed by 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.

WARRANTY

NOTICE: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but 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 contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and Buyer assumes the risk of any such use.

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



**INHALATION
HAZARD**

2

**METHYL BROMIDE
UN 1062
INHALATION HAZARD**

**RESTRICTED USE PESTICIDE
DUE TO ACUTE TOXICITY**

For retail sale to and use only by Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

Methyl Bromide 98%

**A FUMIGANT FOR USE ONLY BY
PROFESSIONAL FUMIGATORS**

ACTIVE INGREDIENT: Methyl Bromide	98%
INERT INGREDIENT: Chloropicrin	2%
TOTAL:	100%

This product weighs 14.4 pounds per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER



PELIGRO

POISON

PELIGRO: Si Usted no entiende la etiqueta, busque a alguien para que se la explique a Usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

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

FIRST AID

IF INHALED: Get exposed person to fresh air. Keep warm. Make sure person can breathe freely. If breathing has stopped, give artificial respiration. Give oxygen if needed. Do not give anything by mouth to an unconscious person. Seek medical attention.

IF ON SKIN: Immediately remove contaminated clothing, shoes, and other items covering the skin. Wash contaminated skin area thoroughly with soap and water.

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes.

NOTE TO PHYSICIAN

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.

See side panels for additional precautionary statements.



P. O. Box 782, Hollister, CA 95024

EPA Reg. No. 8536-19

EPA Est. 8536-CA-1

CA-2

CA-3

CA-4 ←

FL-1

NET CONTENTS.....LBS.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS:
DANGER

EXTREMELY HAZARDOUS LIQUID AND VAPOR UNDER PRESSURE. INHALATION MAY BE FATAL OR CAUSE SERIOUS ACUTE ILLNESS OR DELAYED LUNG OR NERVOUS SYSTEM INJURY. DO NOT BREATHE VAPORS. LIQUID OR EXCESSIVE VAPOR CAN CAUSE SERIOUS SKIN OR EYE INJURY WHICH MAY HAVE A DELAYED ONSET. DO NOT GET LIQUID ON SKIN, IN EYES, OR ON CLOTHING.

THIS PRODUCT CONTAINS CHLOROPICRIN AS A WARNING ODORANT. CHLOROPICRIN MAY BE IRRITATING TO THE UPPER RESPIRATORY TRACT, AND EVEN AT LOW LEVELS CAN CAUSE PAINFUL IRRITATION TO THE EYES, PRODUCING TEARING. IF THESE SYMPTOMS OCCUR, LEAVE THE FUMIGATION AREA IMMEDIATELY.

AIR CONCENTRATION LEVEL

The acceptable air concentration level for persons exposed to chloropicrin is 0.1 ppm (0.7 mg/m³). The acceptable air concentration level for persons exposed to methyl bromide is 5 ppm (20 mg/m³), except that for entry into residential and commercial structures the acceptable air concentration level is 3 ppm. The air concentration level is measured by a direct reading detection device, such as a Dräger tube/pump.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Loose-fitting or well ventilated long-sleeved shirt and long pants or equivalent, e.g., coveralls
- Shoes and socks
- Full-face shield or safety glasses with brow and temple shields when handling liquid product (Do NOT wear goggles.)
- When the air concentration level of chloropicrin is above 0.1 ppm and the air concentration level of methyl bromide is above 5 ppm and a respirator is required, protect the eyes by wearing a full-face respirator.
 - No respirator is required, if the air concentration level of chloropicrin in the working area is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide in the working area is measured to be 5 ppm or less.
 - A respirator is required if the air concentration level of 0.1 ppm for chloropicrin OR 5 ppm for methyl bromide is exceeded at any time. The respirator must be one of the following types: (a) a supplied-air respirator (MSHA/NIOSH approval number prefix TC-19C) OR (b) a self-contained breathing apparatus (SCBA) (MSHA/NIOSH approval number prefix TC-13F). Under normal soil fumigation conditions, the air concentration level of chloropicrin will not generally exceed 0.1 ppm AND the air concentration level of methyl bromide in the working area will not generally exceed 5 ppm as a time-weighted average, and no respiratory protection is required. However, there is the possibility of a spill or leak during soil fumigation. Therefore, a respirator of a type specified above must be available and will be required for entry into an affected area in the event of a leak or spill.

WORK SAFETY REQUIREMENTS

- Do not wear jewelry, gloves, goggles, tight clothing, rubber protective clothing, or rubber boots when handling. Methyl bromide and chloropicrin are heavier than air and can be trapped inside clothing and cause skin injury.
- If liquid fumigant splashes or spills on clothing, remove them at once, as fumes will be an intolerable source of irritation.
- Immediately after contamination, remove outer clothing, shoes and socks, and do not reuse until thoroughly aerated or ventilated. Keep such clothing and shoes outdoors until thoroughly aerated. Then follow the PPE manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE and work clothing separately from other laundry.
- Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.
- Follow PPE manufacturer's instructions for cleaning/maintaining protective eyewear and respirators.

USER SAFETY RECOMMENDATIONS

Users should:

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

OBSERVE THE FOLLOWING PRECAUTIONS
GENERAL PRECAUTIONS

1. Do not get in eyes, on skin or on clothing.
2. Do not spill or discharge contents outside of areas confined for treatment.
3. Comply with all local regulations and ordinances.
4. It is advisable to supply your physician with information on Methyl Bromide. Literature is available from your dealer or distributor.
5. Obtain medical assistance at once in case of illness after exposure, and do not allow conditions which could accidentally cause further exposure until recovery is complete. (See Note to Physician.)

PRECAUTIONS FOR SOIL FUMIGATION USE

PRIOR TO FUMIGATION

- Comply with all local regulations and ordinances. Obtain an application permit from Agricultural Regulatory Agencies as required.
- Never fumigate alone. It is imperative always to have an assistant and proper protective equipment in case of accidents.
- Drivers of application equipment must advise other workers of all precautions and procedures. In addition, drivers must instruct their helpers in the mechanical operation of the tractor and how to safely work with the tractor and driver while fumigating.
- Handle this fumigant in the open, with the operator "up wind" from the container where there is good ventilation.
- Check fumigant pressure system for leaks before beginning operation.
- Two trained persons must be present during introduction of the fumigant.
- When fumigating soil from a tractor, 5 gallons of water must be carried on the tractor and placed where it is readily accessible. In addition to water available on the tractor, at least 5 gallons of additional water must be available from the service truck. This water must be potable and in containers marked "Decontamination water not to be used for drinking."
- Field should be reasonably free of trash and in good tith before starting the fumigation.
- Post all treated areas with warning signs.

DURING FUMIGATION

- This fumigant should not be applied when there is an atmospheric inversion. Since uncomfortable concentrations of chloropicrin may drift to nearby areas, immediately cover treated area with plastic tarpaulin for a minimum of 48 hours when the shank injection depth is less than 10 inches.
- Do not lift injection shanks to turn at the end of a pass until fumigant has drained from system following closure of shutoff valve.
- If trash is inadvertently pulled by the shanks to the ends of the field when fumigating, it must be covered by lifting the shanks, then covering the trash with polyethylene film before making the turn for the next pass.
- When changing the cylinders, be certain they are turned off and fumigant system is not under pressure.
- Do not open the system when there are people or structures downwind where exposures above the permissible exposure levels could occur.

AFTER FUMIGATION

- Keep pets, livestock, and other domestic animals out of the treated area during application, during the exposure period as specified for applications in Directions for Use, and during removal of the tarpaulin.
- Two trained persons must be present during removal of the tarpaulin.

SPILL AND LEAK PROCEDURES FOR SOIL FUMIGATION

- In case of a rupture of hose or fitting while applying fumigant, immediately stop tractor and motor.
- Evacuate everyone from the immediate area of the spill or leak.
- Wear the personal protective equipment (including prescribed respirators) specified in the HAZARDS TO HUMANS section of this labeling for entry into affected area to correct problem.
- Approach from upwind to make necessary repairs.
- Do not enter area without the required PPE until the spill has evaporated or the leak has been fixed.
- 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 lbs. is exceeded.

NOTE CAREFULLY

- Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid, or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil tests made after fumigation. To avoid ammonia injury and/or nitrate starvation to crops, avoid using fertilizers containing ammonium salts and use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65° F. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

PRECAUTIONS FOR STRUCTURAL, TRANSPORTATION OR SPACE FUMIGATION

GENERAL PRECAUTIONS:

- When used for fumigation of enclosed spaces (houses and other structures; warehouses; vaults; chambers; greenhouses; trucks, vans, boxcars, ships and other transport vehicles; and tarpaulin-covered areas), two persons trained in the use of this product must be present during introduction of the fumigant, initiation of aeration, and after aeration when testing for reentry. Two persons do not need to be present if monitoring is conducted remotely (outside the area being fumigated).
- Do not fumigate with this product when the temperature is below 40°F.
- Whenever possible, apply methyl bromide from outside of structure or car being fumigated. Make sure the fumigated area is properly sealed and posted. Do not move trucks, trailers, or vans during fumigation. They must be completely aerated before movement is allowed.

AERATION AND REENTRY:

- After fumigation, fumigated areas must be aerated until the air concentration level of chloropicrin is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide is measured to be 5 ppm or less (3 ppm for residential and commercial structures).
- Until the acceptable air concentration levels are reached, do not allow any person to enter into the fumigated area unless he/she is wearing the personal protective equipment (including prescribed respirator) specified in the Hazards to Humans section of this labeling. In greenhouses, additional Worker Protection Standard restrictions apply.
- For residential and commercial structural fumigations, specific USEPA instructions as detailed elsewhere in this product label and supplemental manual must be strictly followed.

SPILL AND LEAK PROCEDURES FOR ENCLOSED SPACE FUMIGATION:

- Evacuate everyone from the immediate area of the spill or leak.
- For entry into affected area to correct problem, wear the personal protective equipment (including prescribed respirators) specified in the Hazards to Humans section of this labeling.
- Move leaking or damaged containers outdoors or to an isolated location.
- Observe strict safety precautions.
- Work upwind, if possible.
- Allow spilled fumigant to evaporate.
- Only correctly trained and PPE-equipped handlers are permitted to perform such cleanup. Do not permit entry into the spill or leak area by any other person until the air concentration level of chloropicrin is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide is measured to be 5 ppm or less.
- 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 lbs. is exceeded.

CHEMICAL HAZARD

- 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 should 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. Do not permit water to be used to clean the fumigant pressure system as corrosion will result. Diesel oil is satisfactory for this purpose.
- The following materials can develop an undesirable odor when encountered in structural fumigation 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 wools, 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).
- 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.

ENVIRONMENTAL HAZARD

- This pesticide is toxic to wildlife. 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.
- For space fumigation use, monitor area immediately surrounding the fumigation site with a direct reading detection device, such as a Dräger tube/pump, during exposure and aeration periods to establish that dangerous levels of the fumigant are not present. The high volatility of the fumigant permits it to be vented from space being fumigated and to dissipate rapidly with no hazard to surrounding areas with correct monitoring.

DIRECTIONS FOR USE

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

PLACARDING OF FUMIGATED AREAS

The applicator (or supervisor of the application) must placard all entrances to the fumigated area with signs bearing:

- skull and crossbones symbol
- "DANGER/PELIGRO"
- "Area under fumigation, DO NOT ENTER/NO ENTRE"
- "Methyl Bromide and Chloropicrin Fumigants in use"
- the date and time of fumigation
- name, address, and telephone number of the applicator
- Boxcars must be placarded with D.O.T. specified warning signs.

Do not allow entry by unprotected persons into the fumigated area until the signs are removed. Such signs must only be removed when the air concentration level of chloropicrin is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide is measured to be 5 ppm or less (3 ppm in residential and commercial structures). Signs must remain legible during the entire posting period. Warning signs are available from your dealer or distributor.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements in this labeling about personal protective equipment, restricted-entry intervals, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS). No instructions elsewhere on this labeling relieve users from complying with the requirements of the WPS.

ENTRY RESTRICTIONS: Greenhouse Space Fumigation: Entry (including early entry that would otherwise be permitted under the WPS) by any person—other than a correctly trained and equipped handler who is performing a handling task permitted by the WPS—is PROHIBITED in the entire greenhouse (entire enclosed structure/building) from the start of application until aeration reduces the air concentration level of chloropicrin in the working area to 0.1 ppm or less AND the air concentration level of methyl bromide in the working area to 5 ppm or less. **Greenhouse Soil Fumigation:** Entry (including early entry that would otherwise be permitted under the WPS) by any person—other than a correctly trained and equipped handler who is performing a handling task permitted by the WPS—is PROHIBITED in the entire greenhouse (entire enclosed building/structure) from the start of application until 48 hours after application AND until the air concentration level of chloropicrin in the working area is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide in the working area is measured to be 5 ppm or less. Until the aeration of the soil is complete (usually 10-14 days), non-handlers are permitted in the greenhouse ONLY while the air concentration level of chloropicrin in their working area remains 0.1 ppm or less AND the air concentration level of methyl bromide in their working area remains 5 ppm or less. If tarps are used for the application, non-handler entry is prohibited during tarp removal and until the air concentration level of chloropicrin in the working area is measured to be 0.1 ppm or less AND the air concentration level of methyl bromide in the working area is measured to be 5 ppm or less. **Outdoor Soil Fumigation:** Entry (including early entry that would otherwise be permitted under the WPS) by any person—other than a correctly trained and equipped handler who is performing a handling task permitted on this labeling—is PROHIBITED from the start of application until 48 hours after application. In addition, if tarps are used for the application, non-handler entry is prohibited while tarps are being removed.

NOTIFICATION: Notify workers of the application by warning them orally and by posting fumigant warning signs, as described in the "Placarding of Fumigated Areas" section of this labeling. Post the fumigant warning sign instead of the WPS sign for this application, but follow all WPS requirements pertaining to location, legibility, size, and timing of posting and removal. **Greenhouses—Soil or Space Fumigation:** Post the fumigant warning signs outside all entrances to the entire greenhouse (entire enclosed building/structure). **Outdoor Soil Fumigation:** Post the fumigant warning signs at entrances to treated areas. **PPE FOR ENTRY DURING ENTRY-RESTRICTED PERIOD:** PPE for entry that is permitted by this labeling is listed in the "Hazards to Humans and Domestic Animals" section of this labeling.

GENERAL INFORMATION AND INSTRUCTIONS

THIS FUMIGANT IS A HIGHLY HAZARDOUS MATERIAL AND SHOULD 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.

SOIL FUMIGATION

PESTS CONTROLLED

- **NEMATODES, INCLUDING:** root-knot spp. *Tylenchulus*, *Pratylenchus*, *Xiphinema*, *Criconemoides*, and *Paratylenchus*.
- **SOIL BORNE FUNGI, INCLUDING:** *Pythium*, *Rhizoctonia*, *Phytophthora*, *Pyrenochaeta*, *Sclerotium*, *Armillaria*, and the clubroot organism, *Plasmodiophora*.
- **WEEDS AND WEED SEED:** Seeds, roots, stolons, and bulbs of broadleaf weeds and grasses including quackgrass, annual bluegrass, broomrape, common lambsquarters, torpedograss and Bermuda grass. Not effective against mallow, dodder, and some species of clover.
- **INSECTS IN THE SOIL AT THE TIME OF TREATMENT, INCLUDING:** Wireworms, June beetle larvae, white grubs, and garden symphylan.

PRETREATMENT SOIL PREPARATION

- Plow or rip the soil to the depth to which effective treatment is required. The soil should be worked until free of clods or large lumps.
- Residue from previous crops should be worked into the soil to allow for decomposition prior to fumigation.
- Soil moisture should be optimum for seed germination. Coarse textured soils can be fumigated with higher moisture content than fine textured soils. For best results, soil should be kept moist for at least four days prior to treatment.
- Do not fumigate if the soil temperature is below 50°F.
- **NOTE:** Fumigation may temporarily reduce nitrification in the soil, thus increasing levels of ammonium, nitrogen, and soluble ammonium salts to potentially phytotoxic levels. Accumulation of ammonium is most likely to occur when maximum rates of fumigant and fertilizer are applied to soils that are acidic, wet, cold, or high in organic matter. Apply only fertilizer containing at least 30% nitrate until the crop is well established and soil temperature is above 65°F then fertilize as indicated by soil test. To stimulate nitrification and to reduce possible ammonium toxicity, acid soils should be limed before fumigation.

APPLICATION INSTRUCTIONS

- **FIELD FUMIGATION** For overall application of Methyl Bromide 98%, inject the product with a chisel type applicator, having the injection points spaced no more than 12 inches apart and injecting the fumigant to a minimum depth of 6 to 8 inches below the soil surface. To seal the fumigant after application, drag or cultipack immediately behind chisels or cover with a gas-tight tarpaulin. Consult Dosage Table for proper rate of application. For row applications use the same rate of application per acre as suggested in the Dosage Table. The actual amount used per acre, however, will be proportional to the actual area being treated.

RAISED TARP FUMIGATION METHOD

Support the center of the cover to provide a small gas dome. Inflated plastic bags, crumpled fertilizer bags, burlap bags stuffed lightly with hay or straw, inverted baskets, flowerpots or bottles placed in the soil may be used for support. Evaporating pans are essential for the volatilization and uniform dispersion of fumigant. Shallow pans or basins made of plastic or tin are satisfactory for this purpose.

1. Use one evaporator pan for each 300 to 400 square feet of area.
2. Anchor one end of each polyethylene tube into an evaporating pan with tape or a suitable weight. This insures that the liquid will be directed into the evaporating pan.
3. Extend the free ends of the polyethylene tubes outside of the area to be covered.
4. After the supports and tubing are in place, cover the area to be fumigated with a gas proof cover of polyethylene or coated fabric film.
5. Seal the outside edges with 6 to 10 inches of soil. Tamp the soil down so edges will not pull loose.
6. Attach a polyethylene tube to the cylinder valve outlet and open. Use a cylinder dispenser or scale to meter small amounts.

HOT GAS METHOD

The "hot gas method" consists of using a commercially manufactured heat exchanger, or a copper coil immersed in a vessel containing hot water, to vaporize the fumigant before introduction. This method may be useful where large amounts of fumigant are required and rapid vaporization is advantageous.

DOSAGE: Use one to two pounds of Methyl Bromide 98% per 100 square feet for an exposure time of 24 hours when soil temperature is 60°F or higher. Methyl Bromide penetrates the soil to the depth it has been plowed or ripped. When soil temperature is between 50°F and 60°F, extend the exposure time to 48 hours. Do not treat when soil temperature is below 50°F.

POTTING MIX FUMIGATION DIRECTIONS

Potting mixes, including decomposed compost, soil mixes and manure, can be fumigated with Methyl Bromide 98%. Fumigation should take place outdoors or in a well ventilated area away from desirable plants or occupied buildings. The material to be treated should have a temperature of 60°F or above, be loose and moist enough for good seed germination. To insure a good seal, pile the material to a depth of 18 inches on a concrete floor or on wet ground. Piles two to three feet high can also be treated provided perforations are made in the pile surface at one foot intervals to assist penetration. Once the pile has been made, install supports to hold the cover a few inches above the pile surface to aid in proper fumigant diffusion. Place the outlet of the applicator tube or tubes in evaporating pans spaced about 30 feet apart on the pile surface. Cover with a polyethylene sheeting or other gas confining material of 4 mil. or greater thickness. Seal the edges by burying, covering with moist sand, or soil or by means of sand snakes. Introduce the fumigant into the evaporating pans as a liquid or by means of the hot gas method. Consult Table for proper dosage and exposure time. Aerate for 24 to 72 hours before planting. Potting mixes in flats may also be treated. Arrange the flats in loose criss-cross stacks no more than 5 feet high, then cover and seal as described above. Introduce the fumigant at the top and in the center of the stack into evaporating pans or by means of the hot gas method at a rate of 4 pounds per 100 cubic feet. Use one injection point for each 100 cubic feet of volume. Expose for 24 to 48 hours. Aerate for 24 hours.

TREE SITE FUMIGATION DIRECTIONS (For Use in Florida Only)

Preplant or replant fumigation of citrus soil for control of *Phytophthora* and citrus nematodes in Florida sandy soils. Apply Methyl Bromide 98% at the rate of 1 pound per 100 square feet. Apply with chisels spaced 12 inches apart to a depth of 6 to 8 inches. Seal fumigant with a drag or cultipacker following immediately behind chisels. Immediately cover with a 4 mil. tarp and expose to fumigation for 96 hours. Remove cover and aerate 2 weeks before setting transplants in treated area. This treatment will control disease to a depth of 4 feet.



DOSAGE TABLE - SOIL FUMIGATION USES			
TREATMENT SITE	RATE LBS./ACRE	EXPOSURE TIME (HRS.)	DAYS TO PLANTING ¹
Field soils to be planted to:			
All food crops	180 - 240	24 - 48	3 - 14 ²
Non-food and non-feed crops	180 - 435	24 - 48	7 - 30 ²
Field soils to be planted to:			
Citrus, deciduous fruits & nuts, vineyards	400 - 870 ² 435 - 870 ²	24 - 48 ² 24 - 48	10 - 30 ² 10 - 30 ²
Nursery, Turf, and Ornamentals	180 - 800	24 - 48	10 - 30 ²
Soil: Turf, lawns, parks, golf greens, athletic fields, recreational turf areas, ornamentals, floral crops, forest tree seedlings			
Greenhouse Soils:			
Non-Food Crops	180 - 435	24 - 48	7 - 30 ²
Food Crops	180 - 240	24 - 48	7 - 30 ²
Seed or Transplant Beds:			
Non-Food and Food Crops	180 - 435	24 - 48	7 - 30 ²
Tobacco	872	24 - 48	7 - 30 ²
Potting Mix	1 lb/cu. yd.	24 - 48	1

1) Use the higher rates for muck and heavy clay soils.
 2) Deep injection application.
 3) Topical application.
 4) For control of *armillaria mellea*, increase exposure time to 7 days.
 5) Waiting period from time of fumigation to planting.
 6) Under adverse conditions, test the soil for the presence of methyl bromide with a Dräger detector before planting.

• **SPECIAL INSTRUCTION FOR THE CONTROL OF ARMILLARIA MELLEA (OAK ROOT FUNGUS) ON DECIDUOUS FRUITS AND NUTS, CITRUS, AND VINEYARDS**

PRETREATMENT SOIL PREPARATION: To obtain the maximum control of *Armillaria mellea* with Methyl Bromide 98%, soil must be dry to a depth requiring treatment. This can be accomplished by: (a) planting sudangrass in the Spring, irrigating until the grass has established itself, then withholding further irrigation; (b) naturally, by allowing plants to grow without irrigation. When soil is dry, cut and remove grass, plants and debris. Rip soil to a depth of 36 inches and disc to smoothness.

DOSAGE AND METHOD OF APPLICATION: This is a preplant or replant treatment. Methods and rate of application are as follows:

o **Non-Tarp Chisel Application (not for use in California):** After the soil has been properly prepared, inject 400 to 870 pounds of Methyl Bromide 98% per acre by chisel application with chisels spaced up to 66 inches apart to a depth of 24 to 30 inches. In the row strip, treatments may be made by using a single shank. Chisels should have a wing welded on the back 2" to 4" above the chemical outlet to partially break the chisel mark. To fill in the chisel mark and seal the surface, disc and ringroll immediately after fumigant injection. Be sure that the disc and ringroller cover an area sufficiently beyond the chisel lines to effect a good seal.

o **Tarp Chisel Application:** After the soil has been properly prepared, apply 400 to 870 pounds of fumigant per acre by chisels spaced up to 66 inches apart, as described above, and cover with adequate polyethylene film seal.

o **Deep Injection Auger-Probe Treatment:** Use one pound of Methyl Bromide 98% in light soils (two pounds in fine-textured soils) to a depth of 36 inches or more below the soil surface. Assume one injection site per 100 square feet (on a 10 ft. x 10 ft. grid pattern) with the injection in the center of the area to be treated.

EXPOSURE AND AERATION PERIOD: To insure the proper time-concentration relationship to control oak root fungus for chisel applications, we recommend a seven-day exposure period before removing the polyethylene film cover, and a one day interval with Deep Injection Auger-Probe Treatment, after which planting or replanting of trees, vines, or other deep-rooted crops may begin 14 days later.

• **NON-TARP NEMATODE CONTROL**

For control of nematodes including *Meloidogyne* spp, *Xiphinema* spp, *Crictonemoides*, *Pratylenchus*, and *Paratylenchus* on crops such as deciduous fruits, nuts, citrus, and vineyards. This is a preplant or replant treatment. A waiting period of at least 14 days should be observed between application and planting.

PRETREATMENT SOIL PREPARATION: Plow or rip the soil to the depth to which effective treatment is required. The soil should be worked until free of clods or large lumps and residue from previous crops should be worked into the soil to allow for decomposition prior to fumigation. To insure maximum fumigant penetration the soil at the point of injection should not contain more than 5 to 15% moisture depending on soil type. However, to improve sealing, the soil surface may be moistened by means of a sprinkler application of 1/4 to 1/2 inch of water prior to final preparation and application. Do not fumigate when soil temperature is below 50°F.

DOSAGE AND METHOD OF APPLICATION:

□ **Chisel Application:** After the soil has been properly prepared inject 400 to 870 pounds of Methyl Bromide 98% per acre by chisel application with chisels spaced up to 66 inches apart to a depth of up to 24 inches. In the row strip, treatments may be made by using a single shank. To fill in the chisel mark and seal the surface, disc and ringroll immediately after fumigant injection. Be sure that the disc and ringroller cover an area sufficiently beyond the chisel lines to effect a good seal.

□ **Deep Injection Auger-Probe Treatment:** Use one pound of Methyl Bromide 98% per injection site in lighter soils; two pounds in fine textured soils. Use one injection site per 100 square feet (on a 10 ft. x 10 ft. grid pattern) with the injection in the center of the area to be treated. Tamp or compact the soil at the point of injection.

NOTE: Methyl Bromide 98% used without a tarp or under very dry conditions will not usually control most weed seeds; however, some control may be observed on deep-rooted perennials such as morning-glory (bindweed) and rhizomes of Johnson grass.

• **GREENHOUSES**

□ The use of methyl bromide and chloropicrin in enclosed spaces presents a special hazard to humans and plant life. Before fumigation, train all personnel involved in fumigation (including use of safety equipment). When used for fumigation of enclosed spaces, two persons trained in the use of this product must be present during introduction of the fumigant, initiation of aeration, and after aeration when testing for reentry. Follow **USE PRECAUTIONS**. Follow directions for row application with doors open and fans running. After application and tarping, secure and post the structure to prevent unprotected persons and domestic animals from entering. After the exposure period, open doors and turn on fans prior to removing tarpaulins.

□ **On-Site Protective Equipment:** Although this fumigant contains chloropicrin, the absence of chloropicrin does not always indicate the absence of methyl bromide. Do not allow any person to enter the fumigated structure without the appropriate protective equipment from the time of injection of the fumigant until acceptable air concentration level readings are obtained using an approved detector. To maintain adequate safety standards, the following equipment must be present and accessible on the site during the entire fumigation operation: (1) one or more self-contained breathing apparatus; (2) one or more replacement air bottles per breathing apparatus; and (3) one or more halide leak detectors.

□ **After Fumigation:** At the end of the exposure period, remove all seals and open all doors and windows that are operational. Allow for complete ventilation. Use ventilation fans whenever possible to remove fumigant from dead air pockets. Follow exactly the instructions in the entry restriction section of the **AGRICULTURAL USE REQUIREMENTS** box.

SPACE AND STRUCTURAL FUMIGATION

■ CHAMBER FUMIGATION

1. Before introducing the fumigant, place warning signs on all doors.
2. Two people should be present when introducing the fumigant and opening the door after fumigation.
3. All controls should be outside the chamber.
4. Load the chamber with the material to be fumigated, close exhaust ports, turn on circulating fan and close chamber door.
5. Determine the proper rate of application and exposure time from the appropriate table.
6. Vaporize the liquid in the chamber by spraying it into the air stream in front of a blower or fan, passing it through a vaporizer, or allowing it to evaporate from a shallow pan.
7. At the end of the exposure period, aerate by opening the exhaust port, turning on the exhaust fan and opening the chamber door slightly to permit fresh air to enter.

NOTE: Always check completeness of aeration with detection devices before allowing unprotected persons to enter the chamber.

■ VACUUM CHAMBER FUMIGATION

1. Place material to be fumigated in the steel chamber and draw the desired vacuum.
2. Release fumigant into the chamber (usually through a heating unit to ensure complete vaporization).
3. See Dosage Table/Structural Control and Other Sites for specific commodities, rate of application, and exposure time.
4. At the end of the exposure time, release the vacuum and change the air in the chamber at least two times. A vacuum of 15 in. Hg. should be drawn for this purpose.

■ TRUCK, VAN, OR TRAILER FUMIGATION

1. Seal the off-side door, ventilators and other openings from the inside.
2. Use a closed-ended perforated tube to distribute fumigant evenly. Secure the tube to the ceiling so the perforations direct fumigant toward the floor and prevent it from spraying the ceiling. Always apply fumigant from outside the truck, van, or trailer.
3. Seal the door and place warning signs on both sides of the truck, van or trailer. Fumigated areas must be placarded on all entrances. Do not remove warning signs until the fumigated area is completely aerated and safe for entry, as indicated by a suitable detector.
4. Do not fumigate while strong winds are blowing.
5. Consult Dosage Table/Structural Control and Other Sites for specific commodities, rate of application, and exposure time.
6. After 12 to 18 hours, open the unit and aerate 1 to 1-1/2 hours. The truck, van or trailer may then be resealed for shipment. **DO NOT MOVE TRUCKS, VANS OR TRAILERS DURING FUMIGATION. THEY MUST BE AERATED UNTIL THE FOLLOWING AIR CONCENTRATION LEVELS ARE REACHED: 0.1 PPM OR LESS FOR CHLOROPICRIN AND 5 PPM OR LESS FOR METHYL BROMIDE TO 5 PPM OR BELOW BEFORE MOVEMENT IS ALLOWED.**
7. Advise consignee to check the truck, van, or trailer for proper aeration on arrival.

■ RAILROAD CAR FUMIGATION

1. Seal the off-side door, ventilators and other openings from the inside.
2. Use a closed-ended perforated tube to distribute fumigant evenly. Secure the tube to the ceiling so the perforations direct fumigant toward the floor and prevent it from spraying the ceiling. Always apply fumigant from outside the car.
3. Seal the door and place warning signs on both sides of the car. Fumigated areas must be placarded on all entrances with warning signs. Do not remove warning signs until the fumigated area is completely aerated and safe for entry, as indicated by a suitable detector.
4. Do not fumigate while strong winds are blowing.
5. Consult Dosage Table for rate of application and exposure time.
6. After 12 to 18 hours, open the unit and aerate for 1 to 1-1/2 hours, the car may then be resealed for shipment. **DO NOT MOVE RAILCARS DURING FUMIGATION. THEY MUST BE AERATED UNTIL THE FOLLOWING AIR CONCENTRATION LEVELS ARE REACHED: 0.1 PPM OR LESS FOR CHLOROPICRIN AND 5 PPM OR LESS FOR METHYL BROMIDE TO 5 PPM OR BELOW BEFORE MOVEMENT IS ALLOWED.**
7. Advise consignee to check the car for proper aeration on arrival.

■ RESIDENTIAL AND COMMERCIAL STRUCTURAL FUMIGATION (including Warehouses and Food Plants)

NOTE: Check with appropriate municipal and county authorities before fumigating to be completely familiar with local regulations. Ordinances may require watchmen, padlock, or warning posters during and after fumigation and/or notification of the nearest fire station. Notify anyone who would normally be in the area before fumigating.

1. Remove food and feed commodities before fumigation.
2. See Dosage Table/Structural Control and Other Sites for rate of application and pests controlled.
3. Seal the building by closing all external openings, including roof ventilators, chimneys, drain pipes, tunnels, etc. Fumigated areas must be placarded on all entrances with signs containing at least the signal word DANGER and the Skull and Crossbones, and the words "Area under fumigation do not enter until completely aerated", the date of fumigation, name of fumigant used, emergency telephone number for contact, and the name and address of the fumigator. Do not remove warning signs until the fumigated area is completely aerated and safe for entry, as indicated by a suitable detector.
4. Seal all floor and roof cracks and around eaves.
5. Take special care to seal partitions to adjacent storage or work areas in the building. When using tarps, the soil surface should be sealed by using sand or water snakes or by trenching and burying the edge of the tarp in the trench and covering with soil or sand followed by the application of water. When using sand snakes, the soil surface should be premoistened if necessary.
6. Doors and hatches on milling machinery should be opened prior to fumigation. These include elevator boots, conveyor lids, settling chamber doors, dust trunks, and any other openings that will allow fumigant into the equipment.
7. Clear adjoining buildings sharing a common wall. If they cannot be cleared, check frequently with an approved detector to insure the safety of the occupants.

■ TARPAULIN FUMIGATION

The stacked material should be placed on a concrete floor or other air-tight surface. If the floor is not air-tight, it may be made so by laying Sisal Kraft paper, tar paper, or additional tarpaulin or polyethylene sheeting on it. Center 4 or 5 sacks on top of the stack to provide space for gas expansion. Place an evaporating pan with an anchored applicator tube in the center of the expansion dome. Cover and seal the stack with a gas-tight tarpaulin or polyethylene sheeting of 4 mil or greater thickness. Connect the tube to the gas cylinder. Release the fumigant. Use rate and exposure time shown in Dosage Table/Structural Control and Other Sites. When fumigation is complete, partially remove the tarpaulin and leave it for 30 minutes. This allows partial aeration before the cover is completely removed.

AERATION AND REENTRY FOR RESIDENTIAL OR COMMERCIAL STRUCTURES

At the end of the exposure period, after all tarpaulins or seals are removed from the structure, open all interior and exterior doors, windows, and vents that are operational. No person shall be allowed to reenter the structure unless wearing protective clothing and a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator until the following criteria are met:

1. If non-mechanical or natural ventilation is used: (A) The structure must be aerated for a minimum of 7 days from the time the tarpaulins are removed; (B) After aeration is completed, the level of methyl bromide in the structure must be measured using a gas detector device with a minimum detection limit of 3 ppm for methyl bromide. Measurements must be taken from an interior electrical outlet by inserting the detection device in the ground receptacle or from other enclosed space within the wall or an interior and a perimeter wall; and (C)(i) The level of methyl bromide must be 3 ppm or less from each area measured; or (ii), If the level of methyl bromide is greater than 3 ppm, the structure must be aerated for an additional 24 hours. At the end of the 24-hour period, the level of methyl bromide must be measured from the areas previously sampled. These procedures must be repeated until the level of methyl bromide is at or below 3 ppm.
2. If mechanical aeration is used: (A) For structures without attics, an aeration fan(s) must be inserted in a window or other exterior opening and sealed so that the air inside the structure is exhausted out of the structure. The aeration fan(s) must be capable of displacing 5,000 cubic feet of air per minute. To facilitate aeration, exterior openings, such as windows, vents, or an access door to the subarea, should be utilized. The structure must be aerated with the fan(s) operating for a minimum of 72 hours; (B) After aeration is completed, the level of methyl bromide in the structure must be measured using a gas detector device with a minimum detection limit of 3 ppm for methyl bromide. Measurements must be taken from an interior electrical outlet by inserting the detection device in the ground receptacle, or from other enclosed space within the wall or an interior and a perimeter wall; and (C)(i), The level of methyl bromide must be 3 ppm or less from each area measured; or (ii), If the level of methyl bromide is greater than 3 ppm, the structure shall be aerated for an additional 12 hours. At the end of the 12-hour period, the level of methyl bromide must be measured from the areas previously sampled. These procedures must be repeated until the level of methyl bromide is at or below 3 ppm.
3. For structures with attics, (A) An aeration fan must be inserted in the attic access door and a window or other exterior opening, and both sealed so that air inside the structure is exhausted outside the structure. The aeration fans must be capable of displacing a minimum of 5,000 cubic feet of air per minute. To facilitate aeration, exterior openings, such as windows, vents, or an access door to the subarea should be utilized. The structure must be aerated with the fans operating for a minimum of 72 hours; (B) After aeration is completed, the level of methyl bromide in the structure must be measured using a gas detector device with a minimum detection limit of 3 ppm for methyl bromide residues. Measurements must be taken from within an interior electrical outlet by inserting the detection device in the ground receptacle, or other enclosed space within an interior and a perimeter wall; and (C)(i), The level of methyl bromide must be 3 ppm or less from each area measured; or (ii), If the level of methyl bromide is greater than 3 ppm, aeration must continue for an additional 12 hours. At the end of the 12-hour period, the level of methyl bromide must be measured from the areas previously sampled. These procedures must be repeated until the level of methyl bromide is at or below 3 ppm.
4. For structures with basements, in addition to the requirements of paragraphs 1, 2, and 3 above, the windows, vents, and interior doors of the basement must be open, and (A) After aeration is completed, the level of methyl bromide in the basement must be measured using a gas detector device with a minimum detection limit of 3 ppm for methyl bromide residues. A measurement must be taken from an interior electrical outlet by inserting the detection device in the ground receptacle, or from other enclosed space within the wall or an interior wall. In the absence of an interior wall, a measurement must be taken of the ambient air in the basement;

and (B)(i), The level of methyl bromide must be 3 ppm or less; or (ii), If the level of methyl bromide is greater than 3 ppm, the structure must be aerated for an additional 24 hours for natural ventilation or an additional 12 hours for mechanical aeration. At the end of the additional ventilation period, the level of methyl bromide must be measured from the area in the basement previously sampled. These procedures must be repeated until the level of methyl bromide is at or below 3 ppm.

STRUCTURAL FUMIGATION FACT SHEET (See Supplemental Manual #MB-1 for Example of Fact Sheet)

- A. The applicator must obtain a Structural Fumigation Fact Sheet which has been signed by, and provided to, the following persons: (1) an adult occupant of a single family dwelling prior to the parties entering into a fumigation agreement; (2) (a) the owner, manager, or designated agent of the building for multiple-family dwellings, provided he or she acknowledges in writing to the applicator that a copy of the Structural Fumigation Fact Sheet has been provided to an adult occupant of each unit prior to the parties entering into a fumigation agreement, or (b) an adult occupant of each unit in a multiple family dwelling prior to the parties entering into a fumigation agreement; or (3), the owner, manager, or designated agent for all structures or businesses other than family dwellings.
- B. The Structural Fumigation Fact Sheet shall state: "The purpose of this handout is to inform the consumer of possible health hazards associated with the use of the structural fumigant methyl bromide. To make sure you have been given an opportunity to read this, applicators are required to obtain the signature of the owners and occupants of property to be fumigated with methyl bromide. You will also be given a copy of this fact sheet to keep."

DRÄGER GAS DETECTOR, BENDIX GASTECH DETECTOR (Hand Pump and Detector Tube)

Methyl bromide may be detected at the Threshold Limit Value (T.L.V.) of 5 ppm. Detectors are available from your dealer or distributor.

**DOSAGE TABLE
STRUCTURAL CONTROL AND OTHER SITES⁽¹⁾**

TREATMENT SITE	PESTS	RATE lbs./1000 cu. ft.	EXPOSURE TIME (hrs.)
Warehouses (empty), Feed rooms (empty), Grain bins (empty)	cockroaches, confused flour beetle, rice weevil, granary weevil, saw-toothed grain beetle, rusty grain beetle, lesser grain borer, cadelle, Khapra beetle, drugstore beetle, larder beetle, carpet beetle, copra beetle, coffee bean weevil, groundnut bruchid, common bean weevil, dried fruit beetle, golden spider beetle, Australian spider beetle, cigarette beetle, angoumous grain moth, Mediterranean flour moth, warehouse moth, Indian meal moth, common grain mite	Less than (cu. ft.): 100,000	1 - 3 24
		100,000 - 500,000	1 - 1-1/2 24
		500,000 - 1,000,000	1 - 1-1/4 24
		Over 1,000,000	1 24
	rats and mice	4 - 5 oz.	12 - 18
Bags, Boxes, and Crates (empty)	cockroaches, confused flour beetle, rice weevil, granary weevil, saw-toothed grain beetle, rusty grain beetle, lesser grain borer, cadelle, Khapra beetle, drugstore beetle, larder beetle, carpet beetle, copra beetle, coffee bean weevil, ground-nut bruchid, common bean weevil, dried fruit beetle, golden spider beetle, Australian spider beetle, cigarette beetle, angoumous grain moth, Mediterranean flour moth, warehouse moth, Indian meal moth, common grain mite	1-1/2 - 3 ^(a)	24
		2 - 3 ^(a)	2
	rats and mice	4 - 5 oz.	12 - 18
Furniture	termites (drywood and dampwood), bedbugs, cockroaches, silverfish, powder post beetle, death watch beetle, carpenter ants, clothes moth, cigarette beetle, drugstore beetle, carpet beetle	1 - 3 ^(a)	24
		2 - 3 ^(a)	2
Lumber and Wood Products	termites (drywood and dampwood), powder post beetle, round and flat headed borers, carpenter ants, bark beetles	1 - 3 ^(a)	24
		2 - 3 ^(a)	2
Greenhouses (empty)	mealy bugs, scale insects, mites	3	4
Mushroom houses	(empty) mushroom flies	2	24
Poultry houses (empty)	poultry mites, bedbugs	2	24
Tobacco, Bales	drugstore beetle, cigarette beetle, tobacco beetle, tobacco moth	2 - 3 ^(a)	48 - 72
		4 ^(a)	4
Cotton, bales	pink bollworm, boll weevil	3 ^(a)	24
		4 ^(a)	2

(1) At temperatures below 60°F, increase the dosage by 1/2 lb. per 1,000 cu.ft. for every 10°F drop in temperature, or use an approved procedure to heat the fumigant. Do not fumigate when temperature is below 40°F.

- (a) Atmospheric
- (b) Vacuum chamber (25" - 27")

NOTE: Remove food and feed commodities before fumigating dwellings.

STORAGE AND DISPOSAL

STORAGE AND HANDLING: Store in a secure manner either outdoors under ambient conditions or indoors in a well-ventilated area. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage. Persons moving, handling, or opening containers must wear the personal protective equipment (including prescribed respirators when necessary) specified in the Hazards to Humans section of this labeling. Open container only in a well-ventilated area. 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, lings 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. 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 cylinder.

RETURN CYLINDERS TO: Soil Chemicals Corp. Soil Chemicals Corp.
8770 Highway 25 2060 E. 220th Street
Hollister, CA 95023 Long Beach, CA 90810

Cylinders are the property of Soil Chemicals Corporation and should be returned promptly by collect auto freight. 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.

SHIPPING: This fumigant is classified in the U.S. Department of Transportation Hazardous Materials Regulations as Methyl Bromide, 2.3, UN 1062, Poison-Inhalation Hazard, Hazard Zone C and no exemptions from specifications, packaging, marking, or labeling are allowed. Describe empty cylinders as having last contained Methyl Bromide (inhalation hazard). Do not ship with foods, feeds, or clothing.

DISPOSAL: Do not contaminate water, food, or feed by 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.

WARRANTY

NOTICE: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but 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 contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and Buyer assumes the risk of any such use.