

Reg # 58266-3

PM-32

Refr to pages 5 & 7.

Methyl Bromide 99.5%

Column 1

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**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.

**ACCEPTED**  
**22 SEP 1987**  
**11220-9**

UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND ROENTICIDE ACT  
FOR ECONOMIC POISON REGISTERED  
UNDER NO. \_\_\_\_\_ SUBJECT  
TO ATTACHED COMMENTS.

**TRICAL**  
**METHYL BROMIDE 99.5%**  
**FOR USE ONLY BY PROFESSIONAL FUMIGATORS**

ACTIVE INGREDIENTS:

METHYL BROMIDE 99.5%

INERT INGREDIENTS:

CHLOROPICRIN  
ODORIZING AGENT 0.5%

TOTAL 100.00%


Revised Label

July 17, 1987

FRONT PANEL.

Red

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**  **PELIGRO**

**POISON**

**PRECAUCION AL USUARIO:** Si usted no lee Ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

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

**STATEMENT OF PRACTICAL TREATMENT**

**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 any 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 overexposures 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 Panel For Additional Precautionary Statements

Red

Red Headings

Red Border

# TRICAL

P. O. BOX 1327 HOLLISTER, CALIF. 95024

FRONT PANEL

E.P.A. EST. 11220-CA-1, 2, 3, 4  
E.P.A. REG. NO. 11220-09

NET CONTENTS..... LBS.

3.9 16

**PRECAUTIONARY STATEMENTS**

**HAZARD 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.**

**OBSERVE THE FOLLOWING PRECAUTIONS:**

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**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.)

**RESPIRATORY PROTECTION**

If the concentration of methyl bromide in the working area, as measured by a direct-reading detector device (such as a Dräger gas detector) does not exceed 5 ppm (20 mg/cu.m), no respiratory protection is required. If this concentration is exceeded at any time, all persons in the fumigation area must wear protective clothing and a NIOSH/MSHA approved self-contained breathing apparatus, (SCBA) or combination air-supplied/SCBA respirator (such as a U.S. Divers' Survair or comparable device).

Under normal soil fumigation conditions, the concentration 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 SCBA or combination air-supplied/SCBA respirator must be available and will be required for entry into an affected area in the event of a leak or spill.

**CLOTHING PRECAUTIONS**

1. Wear loose clothing and socks that are cleaned after each wearing. Do not wear jewelry, gloves, or tight clothing when handling. Methyl Bromide is heavier than air and may be trapped inside clothing and cause skin injury. If full-face respiratory protection is not required, wear goggles or full face shield for eye protection when handling liquid.
2. Following application, immediately remove clothing, shoes, and socks. Do not reuse contaminated clothing or shoes until thoroughly cleaned and aerated. Branched clothing cannot be adequately decontaminated.
3. Do not wear gloves of any type, or rubber protective clothing or rubber boots.

**WARNING SIGNS**

(Structural, Transportation, Space Fumigation)

1. The applicator must placard or post all entrances to the fumigated area with signs bearing in English and Spanish:
  - (1) The signal word DANGER/PELIGRO and the skull and crossbones symbol.
  - (2) The statement, "Area under fumigation. DO NOT ENTER/NO ENTRE".
  - (3) The date of fumigation.
  - (4) Name of fumigant used.
  - (5) Name, address, and telephone number of the applicator.
2. Do not remove a placard until the treated space is completely aerated. To determine whether aeration is complete, each fumigated site must be monitored and shown to contain less than 5 ppm methyl bromide. If less than 5 ppm methyl bromide is detected, the placard may be removed.
3. Boxes must be placarded with D.O.T. specified warning signs. Warning signs are available from your dealer or distributor.

**SPILL OR LEAK PROCEDURE**

1. Evacuate the immediate area of the spill or leak. Use SCBA or combination air-supplied/SCBA respirator for entry into the 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 5 ppm (20 mg/cu.m).
2. 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.

SEE PRECAUTIONS CONTINUED THIRD COLUMN

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**PRECAUTIONS FOR STRUCTUREL,  
TRANSPORTATION, OR SPACE FUMIGATION USE****GENERAL PRECAUTIONS:**

- Dolrte.*
1. Keep animals, children and unauthorized people away from area under treatment until area is certified free of Methyl Bromide. (See aeration statement.)
  2. When used for fumigation of enclosed spaces, (houses and other structures, ~~warehouses, grain bins or elevators,~~ 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).
  3. Do not fumigate with this product when temperature is below 40 degrees F.
  4. 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:**

1. After fumigation, treated areas must be aerated until the level of methyl bromide is below 5 ppm (20 mg/cu.m).
2. Do not allow entry into the treated area by any person before this time unless loose clothing and a respiratory protection device (SCBA or combination air-supplied/SCBA) is worn.

**PRECAUTIONS FOR SOIL FUMIGATION USE****PRIOR TO FUMIGATION:**

1. Comply with all local regulations and ordinances. Obtain an application permit from Agricultural Regulatory Agencies as required.
2. Never fumigate alone. It is imperative always to have an assistant and proper protective equipment in case of accidents.
3. 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.
4. Handle this fumigant in the open, with the operator "up wind" from the container where there is good ventilation.
5. Check fumigant pressure system for leaks before beginning operation.
6. Two trained persons must be present during introduction of the fumigant.
7. 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."
8. Field should be reasonably free of trash before starting the fumigation.

**DURING FUMIGATION:**

1. 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 injection depth is less than 10".
2. Do not lift injection shanks to turn at the end of a pass until fumigant has drained from system following closure of shutoff valve.
3. 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.
4. 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.

**FOLLOWING FUMIGATION:**

1. Post all treated areas with warning signs, available from your dealer or from Trical.
2. No children, unauthorized people, or animals should be in the fumigation area for 48 hours.
3. When tarpaulin is used, two trained persons must be present during removal of the tarpaulin.

**SPILL AND LEAK PROCEDURE:**

1. In case of a rupture of hose or fitting while applying fumigant immediately stop tractor and motor. Evacuate immediate area of spill or leak. Use SCBA or combination air-supplied/SCBA respirator for entry into affected area to correct the problem. Approach from upwind to make necessary repairs.
2. Do not reenter area without respiratory protection until spill has evaporated or leak has been fixed.

**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 degrees F. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

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**ENVIRONMENTAL HAZARD**

This fumigant is toxic to fish and wildlife. It should not be discharged where it will drain into lakes, streams, ponds, or public water. Do not contaminate water by cleaning of equipment or disposal of waste.

For space fumigation use, monitor area immediately surrounding the fumigation site with a halide detector during exposure and aeration periods to establish that dangerous levels of the fumigant are not present (see aeration statement for halide detector use).

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.

**CHEMICAL HAZARD**

Methyl Bromide is practically nonflammable. There is no danger from fire or explosion in use concentrations. However, flames 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.

The following materials can develop undesirable odor when encountered in structural fumigation and should be removed from the space being fumigated:

1. 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.
2. 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.
3. Furs, horsehair and pillows (Especially feather pillows).
4. Leather goods--particularly white kid or any other leather goods tanned with sulfur processes.
5. 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.
6. Viscose rayons--those rayons processed or manufactured by a process in which carbon bisulphide is used.
7. Paper: (a) Silver-polishing papers (b) Certain writing papers cured by sulphide processes (c) Carbonless paper (d) Blue-prints.
8. Photographic chemicals as used in photo processing darkrooms. (does not include camera film).
9. Rug padding.
10. Cinder blocks.
11. Mixed concrete, which occasionally picks up odors.
12. 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.
13. 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.

Although it is not expressly stated in the Registration Standard for Methyl Bromide, the Required Environmental Hazard Statement for MUPs and EUPs is the same. Accordingly, this statement must be revised in accordance with the language on page 22 [item 3(c)] of the standard.

**BEST AVAILABLE COPY**

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**DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in any manner inconsistent with its labeling.

**STORAGE AND DISPOSAL****STORAGE AND HANDLING:**

Store in dry, cool, well-ventilated areas under lock and key. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage. Persons moving or handling containers should wear protective clothing. Open container only in a well-ventilated area wearing protective clothing, and respiratory protection if necessary. 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 OF CYLINDERS:**

Cylinders are the property of:

Trical	Trical
8770 Hwy. 25	1029 Railroad St.
Hollister, CA 95023	Corona, CA 91720

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 TRICAL for return instructions.

**SHIPPING:**

This fumigant is classified in the U.S. Department of Transportation Hazardous Materials Regulations as Methyl Bromide Liquid or Methyl Bromide and Nonflammable, Non-liquified compressed gas mixture, Liquid, class "B" poison (inhalation hazard) and no exemptions from specifications, packaging, marking or labeling are allowed. Describe empty cylinders as having last contained Methyl Bromide Liquid or Methyl Bromide and Nonflammable, Non-liquified compressed gas mixture, Liquid (inhalation hazard). Do not ship with foods, feeds, or clothing.

**DISPOSAL:**

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



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## GENERAL 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, INCLUDING THE ATTACHED SUPPLEMENT. 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.

## SPACE FUMIGATION

### DIRECTIONS FOR USE:

METHYL BROMIDE 99.5% is intended for professional use in empty mills, warehouses, boxcars, fumigation vaults, under sealed tarpaulins, flat or upright bulk grain storages for the control of all stored product insects including grain beetles, granary weevil, rice weevil, codellies, mites, and meal worms. METHYL BROMIDE 99.5% may also be used for the control of structural insect pests such as dry wood termites, lyctid, or powder post beetle, old house borer, death watch beetle, and such household pests as roaches, bedbugs, spiders, ants, millipedes, carpet beetles, clothes moths, mice, and rats, in dwellings, garages, barns, storage buildings and other structures infested with these pests.

**RATES OF APPLICATION:** For general fumigation at temperatures above 70°F, use 1-3 pounds Methyl Bromide 99.5% per 1,000 cu. ft. for 16-24 hours exposure time. Under adverse conditions, increase the dosage from 3% to 3% pounds per 1,000 cu. ft. fumigation rates.

**DANGER:** Thoroughly aerate building after application. Do not fumigate food products other than those specified in directions and do not use dosages higher than recommended as this can, in some cases, result in residues in excess of those permitted. Do not use Methyl Bromide 99.5% in dairy, cheese or meat plants, or on fresh fruits or vegetables. Do not fumigate if (1) grain moisture is high, (2) grain temperature is low (below 60°F) or (3) there is excessive damage.

**PREPARATION FOR FUMIGATION:** Remove from the structure to be fumigated all persons, domestic animals, pets, fish, and growing plants. Remove from the premises or place in polyethylene bags (thickness not less than 4 mils), all feeds and medicants. Polyethylene bags must be sealed with masking tape or clamps. Extinguish all flames including pilot lights. Open all doors and accesses to crawl spaces, attics and sub-floors. For fabric pest control, open storage chests, drawers, and closets. Provide for forced air circulation of fumigant during the gassing period. For masonry or metal structures, caulk or tape all cracks and other air leaks, ground doors, windows, vents. Wood structures and others that cannot be sealed effectively may be enveloped in a gas cover tarpaulin or polyethylene plastic sheet at least 4 mils thick. Seal all edges of the envelope with moist soil or sand snakes. Soak soil with water one foot from the edge of the envelope as necessary to protect nearby plants.

**FUMIGATION:** Release Methyl Bromide from outside of structure through a heat exchanger or suitable leak proof tube (such as polyethylene) attached to an evaporating pan to prevent splashing over interior. If it is necessary to release fumigant from inside of structure,

S.C.B.A. must be worn as described in Precautionary Statements. Operate electric fan(s) for a minimum of 30 minutes after release to accelerate distribution of gas. Relative to the complexity of the structure to be fumigated, more than one release location may have to be set up.

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**AERATION AND REENTRY**

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.

After fumigation, treated areas must be aerated until the level of methyl bromide is below 5 ppm. Do not allow entry into the treated area by any person before this time unless provided with loose clothing and a respiratory protection device (SCBA or combination air-supplied SCBA).

Certain materials absorb Methyl Bromide during fumigation, and desorption during aeration may call for extended monitoring and aeration periods.

**DRAEGER 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 Soil Chemicals Corporation.

**HALIDE LAMP DETECTOR**

Color of the flame is an index of the concentration of Methyl Bromide present. The following tabulated information provides an index of flame color and concentration of Methyl Bromide present:

METHYL BROMIDE P.P.M	LB/1000 CU. FT.	FLAME COLOR IN DAYLIGHT*
0	0	None
25	0.00625	None
50	0.0125	Moderate Green
125	0.031	Green
250	0.0625	Strong Green
500	0.125	Strong Blue-Green Fringe
800	0.20	Strong Blue-Green
1000	0.25	Blue

\* Nighttime color is identical, but allowance must be made for the bluish cast of the flame itself.

Halide lamp detector is suitable for locating leaks and for determining extent of aeration down to approximately 50 ppm. It is not suitable for clearing a structure for reentry.

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## PREPLANT SOIL FUMIGATION

METHYL BROMIDE may be used as a preplant soil fumigant for land in which plants may be grown for nonfood crop uses. These uses are for seed and plant beds, nurseries and permanent planting sites for tobacco, lemons, and other ornamental and recreational turf areas, forest and shade trees, ornamental flowers, vines and shrubs and other similar plants. Methyl Bromide may be used in vegetable seed beds for production of plants that are later transplanted in untreated soil or soil treated to label directions for registered products, and in orchard and vineyard planting sites and soils where tomatoes, strawberries, pineapple, peppers, muskmelons, cauliflower, broccoli, lettuce, onions, asparagus, and eggplants are to be grown for food.

### APPLICATION: SEED AND PLANT BEDS (PLANTS GROWN FOR TRANSPLANTING)

Prior to planting apply Methyl Bromide at the rate that appears in the dosage table by means of tractor mounted chisels spaced 12 inches apart and of a depth of 3-8 inches below the soil surface. To seal fumigant after application cover immediately with a gas tight tarpaulin by means of a mechanical tarp layer. Do not remove tarpaulin until after the proper exposure period indicated on the dosage table has passed. Prior to fumigation, the soil should be in seed bed condition with adequate moisture to support seed germination. The soil should be worked to the depth it is desirable for the fumigant to penetrate. Plant refuse should be worked into the soil and time allowed for refuse to decompose before treatment.

### TURF, NURSERIES AND FLORAL CROPS

Follow directions for seed and plant beds. If fumigating old turf the soil should be worked up before fumigating. It is desirable that the old turf be incorporated into the soil by rototilling, dicing or plowing. Rate and exposure time is indicated in the dosage table.

### TOMATOES, STRAWBERRIES, PINEAPPLES, MUSKMELONS, EGGPLANTS, PEPPERS, CAULIFLOWER, BROCCOLI, LETTUCE, ONIONS, ASPARAGUS

Follow directions for seed and plant beds. Rate and exposure time is indicated in the dosage table.

Row or bed applications may be made at the broadcast rates but the amount used will be proportionately less per acre depending on the row spacing and width of treatment in the row or bed.

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### GRAPES

Prior to planting, apply Methyl Bromide at the rate that appears in the dosage table by means of tractor mounted chisels spaced not more than 5 1/2 feet apart. Inject the Methyl Bromide at a depth of not less than 12 inches. To seal fumigant after application for disease control, cover immediately with a gas-tight tarpaulin by means of a mechanical tarp layer. Do not remove tarpaulin until after the proper exposure period indicated in the dosage table has passed. For nematode control, seal soil immediately after application of the fumigant by dicing or similar operation. Prior to application, the soil should be ripped to not less than 30 inches and the subsurface should be as dry as possible. Excess moisture will block deep penetration of the Methyl Bromide. Peat soils and soils very high in organic content should not be fumigated to control *Armillaria mellea* with Methyl Bromide. Clay soils and soils that drain poorly may be dried out by planting sodas grass and withholding water from it during the summer. This will increase penetration of Methyl Bromide. Do not apply Methyl Bromide to soil where vines will bear within 24 months.

METHYL BROMIDE may be used as a preplant soil fumigant for land in which plants may be grown for nonfood crop uses. These uses are for seed and plant beds, nurseries and permanent planting sites for tobacco, lemons, and other ornamental and recreational turf areas, forest and shade trees, ornamental flowers, vines and shrubs and other similar plants. Methyl Bromide may be used in vegetable seed beds for production of plants that are later transplanted in untreated soil or soil treated to label directions for registered products, and in orchard and vineyard planting sites and soils where tomatoes, strawberries, pineapple, peppers, muskmelons, cauliflower, broccoli, lettuce, onion, asparagus, and eggplants are to be grown for food.

**DECIDUOUS FRUITS, NUTS, CITRUS, VINEYARDS AND OTHER PERENNIAL CROPS (Do not harvest crop for 24 months after fumigation)**

Prior to planting, apply Methyl Bromide at a rate and exposure time that is indicated in the dosage table. To seal fumigant after application for disease control, cover immediately with a gas-tight tarpaulin by means of a mechanical tarp layer. For nematode control, seal soil immediately after application of the fumigant by discing or similar operation. The soil should be ripped to not less than 30 inches and the subsurface should be as dry as possible. Excess moisture will block deep penetration of the Methyl Bromide. Peat soils and soils very high in organic content should not be fumigated to control Armillaria mellea with Methyl Bromide. Clay soils and soils that drain poorly may be dried out by planting sudan grass and withholding water from it during the summer. This will increase penetration of Methyl Bromide. Back hoeing and augering are alternative methods of applying Methyl Bromide to the tree site. Attach a Methyl Bromide dispenser to the cylinder of Methyl Bromide and to it attach a polyethylene applicator tube. The correct dosage can be measured with the dispenser and then applied through the tube.

**BACK HOEING:** Field tests have demonstrated that this is an effective method for preparing the replant site for fumigation, especially in areas where a hardpan has developed through compaction of the soil. The size of the prepared site is dependent upon the degree of soil compaction. Deeply compacted soil requires preparation of a site the size of the "planter box" in which the tree is to be grown. For stratified soils a single cut the width of the back hoe, 5 feet deep and 6 feet long, is satisfactory. Backfill site with 2 feet of soil, place applicator tube at this level, complete back fill and release entire dose of fumigant for 100 square foot tree site. When fumigant has been released, remove tube and tamp soil lightly over opening to seal fumigant in the site.

**AUGERING:** This method is suitable in noncompacted soils or soils that are lightly stratified. Dig hole 5 feet deep with auger, backfill hole two feet, insert applicator tube, fill hole, and release entire dose of fumigant for 100 square foot tree site. When fumigant has been released, remove applicator and tamp or compact hole with soil to prevent too rapid escape of fumigant.

**DOSAGE AND EXPOSURE TABLE FOR SOIL FUMIGATION WITH METHYL BROMIDE**

PEST CONTROL DESIRED	TYPE OF SOIL and/or CROP	DOSAGE Do not treat when temp. below 50°F	MIN. EXP.	ABSTENTION TIME BEFORE PLANTING
Nematodes Weed Seeds and insects	Turf preparation, lawns and other recreational turf areas.	400-500 lb/A	24 hrs.	3 days
	Hardwood and hardwood crop areas: Seed and plant beds for tobacco, flowers, shade and forest trees, ornamental shrubs and vines, vegetables for production of transplants only, floral and nursery crops	400-500 lb/A	24 hrs.	3 days
Damping off diseases such as Pythium, Rhizoctonia, Fusarium	TURF RENOVATION: Same sites as listed above NONSEED AND NONCROP CROP AREA: Same plants as listed above. Vegetables for production of transplants only, floral and nursery crops.	600 lb/A	24 hrs.	14 days if planted to transplants 3 days if seeded
Nematodes Weed Seeds and insects	Permanent planting for tomatoes, strawberries, pineapples, 240-400 lb/A muskmelons, eggplants, peppers, cauliflower, and broccoli.	400-500 lb/A	24-48 hrs.	3 days if seeded 7-14 days if vegetative growth up to heated soil
Crown rot fungus Armillaria root rot Phytophthora root rot Nematodes (root knot, citrus, lemon, pine, ring and dagger)	Citrus: For control of <i>Nematodes</i> in light sandy soils and fine textured clay soils Control <i>Phytophthora</i> in light sandy and fine textured clay soils Control <i>Armillaria</i> in light sandy soils in fine textured clay soils	400-500 lb/A 600 lb/A 600 lb/A 600 lb/A	5-7 days	14 days
Armillaria root rot Phytophthora root rot Crown rot fungus Citrus Nematodes Burr-coring Nematodes	DECIDUOUS FRUITS, NUTS, CITRUS, AND OTHER PERENNIAL WOODY PLANTS <i>Phytophthora</i> root rot	400-500 lb/A	5-7 days	14 days
	<i>Armillaria</i> root rot in sandy light soils and fine textured clay soil	400-500 lb/A	5-7 days	14 days
Root knot Nematodes	Citrus, burrowing and root knot Nematodes	400-500 lb/A	5-7 days	In colder climates treat in fall and plant following spring
	TREE SITES <i>Phytophthora</i> root rot	1 to 1 1/2 lb/100 sq. ft.		
	<i>Armillaria</i> root rot in light sandy soils	1 to 1 1/2 lb/100 sq. ft.		In warmer climates do not plant until 30 days after application
	and fine textured clay soil	1 to 1 1/2 lb/100 sq. ft.		

**FOR USE WEST OF ROCKY MOUNTAINS - ONIONS DIRECT SEEDING**

**APPLICATION** Treatment can be made whenever soil conditions are suitable. In northern states, late summer or early fall treatments are best for land to be planted to early spring crops. Follow application directions as described for SEED AND PLANT BEDS

**USE:** For control of White Rot, weeds (grasses), and nematodes

**DOSAGE:** 300 lb/A

**EXPOSURE/AERATION:** Returns to surface after 24-48 hours/Aerate 7-14 days before planting

**VARIATIONS:** Use restricted to west of the Rocky Mountains, do not treat any field more than once every three months

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**APPLICATION:** Follow application directions as described for  
**SEED AND PLANT BEDS.**

**DOSAGE AND USE TABLE**

<u>CROP</u>	<u>USE</u>	<u>RATE</u>	<u>PRECAUTION *</u>
Asparagus	Fungus diseases (damping off, Pythium spp.) weeds (grasses) Nematodes	300-400 lbs/A	Remove tarpaulin after 24-48 hours
Lettuce-	Big Vein	200-300 lbs/A	Remove tarpaulin after 24-48 hours
	Weeds (including oxalis) Nematodes	300-400 lbs/A	Remove tarpaulin after 24-48 hours

**LIMITATIONS:** For use in California only, do not harvest  
asparagus during year of treatment, use on lettuce fields only  
once in 2 to 3 years.

\*Aerate 14 days before planting

15 9 16

**Citrus Soil For Control of Phytophthora in Florida Sandy Soils.** This is a preplant or replant treatment. Trees which are planted in this treated soil will not bear harvestable fruit for a period of at least 24 months. Use a minimum of 1.136 pounds per 100 square feet. Expose to fumigation for 24 hours covering treated area with a 4 mil tarpaulin. Will control disease to a depth of 4 feet. Aerate 2 weeks before setting transplants in treated area.

**Greenhouse Fumigation.** Fumigant may be used in field or in greenhouse. When used in greenhouse, the following safety precautions must be strictly observed:

The use of Methyl Bromide in confined spaces presents a potential hazard to humans and plant life. Special precautions must be made in order that these potential hazards be minimized. It is the responsibility of the individual supervising the fumigation operation to see that all safety precautions are strictly observed.

Before the fumigation operation commences, the supervisor of the fumigation job shall have conducted proper training of all personnel involved in the fumigation (includes use of safety equipment), removed all persons from the area not directly involved in the fumigation, and inspected the equipment to insure a proper operation.

If a wind is blowing, all injection should be made upwind from a previous injection site. Immediately after injection of the fumigant and tarping, a qualified person, wearing protective equipment, should monitor the area with a Halide Leak Detector. If extensive leaks are found, the source of the leak should be resealed immediately.

During this operation all windows and doors should be open and fans operating to maximize ventilation. The fumigated area 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 the 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. Exposure time should be 24-48 hours.

Although fumigant contains Chloropicrin, the absence of Chloropicrin does not always indicate the absence of Methyl Bromide. Under no circumstances shall any person be allowed to enter the fumigated structure without the appropriate protective equipment from the time of injection of the fumigant until acceptable readings are obtained using an approved detector. To maintain adequate safety standards, the following equipment must be present on the site during the entire fumigation operation: 1) one or more self-contained breathing apparatuses; 2) one or more replacement air bottles per breathing apparatus; 3) one or more Halide Leak Detectors.

A 5 ppm maximum exposure level for Methyl Bromide has been established. This level has been defined as the concentration below which personal protective devices are not required. Persons not wearing protective equipment should not enter the fumigated area until monitoring devices show Methyl Bromide concentrations of 5 ppm or less.

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**WARRANTY**

NOTICE: Seller warrants that the 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.

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