

**RESTRICTED USE PESTICIDE  
DUE TO ACUTE TOXICITY**

This label and use only limited application are for use only for the purposes of the label and only for the uses covered by the Certified Applicator's Certification.

# 50-50 PREPLANT SOIL FUMIGANT

FOR CONTROL OF NEMATODES, WIREWORMS, WEED SEEDS,  
FUNGUS DISEASES GRUBS AND SOIL-BORNE INSECTS

**ACTIVE INGREDIENTS:**

METHYL BROMIDE

CHLOROPICRIN

*Small Ingredients*

**By Wt.**

49.7%

49.5%

0.8%

**TOTAL 100%**

**ACUTELY TOXIC CHEMICAL**

14.0 LBS Active Ingredient per gal. (16 quarts/gallon)

**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

**STATEMENT OF PRACTICAL TREATMENT**

In all cases of overexposure, get medical attention immediately. Take person to a doctor or emergency treatment facility.

**If inhaled** -- Get exposed person to fresh air. Keep warm. Make sure person can breathe freely. If breathing has stopped apply artificial respiration. Do not give anything by mouth to an unconscious person.

**If on skin** -- Immediately remove contaminated clothing, shoes, jewelry, and any other item on 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.

*See side panels for additional precautionary statements*

EPA REG NO 8622-39-AA

EPA EST NO 10163-AZ-01

EPA EST NO 15298-IS-01

EPA EST NO 29516-FL-04

EPA EST NO 29516-NC-01

Distributed by:  
**AMERIBROM, INC.**  
1250 BROADWAY  
NEW YORK, N.Y.  
10001

**IN CASE OF EMERGENCY CONTACT:**

Chemtrec (800) 424-9390

or

**Ameribrom West**

5417 Santa Clara Ave.

Camarillo, Calif. 93010

Call Collect: (805) 988-9719 (Calif.)

(212) 563-4600 (N.Y.)

**Warranty:** Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor 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. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herewith.

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS & DOMESTIC ANIMALS**

**DANGER  
HIGH ACUTE TOXICITY**

Extremely hazardous liquid and vapor under pressure. Do not breathe vapor. Inhalation or ingestion may be fatal or cause serious acute illness or delayed lung or nervous system injury. Liquid or 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, a volatile liquid tear gas. Chloropicrin vapor is very irritating to the upper respiratory tract, and even at low levels can cause painful irritation to the nose and throat, and to the eyes, producing tearing. If these symptoms occur, leave the fumigation area immediately. Continued exposure after irritation is evident, or higher concentrations, may cause painful irritation to the eyes or temporary blindness, which may cause panic that may in turn lead to further accidents.

**NOTE TO PHYSICIAN:** Early symptoms of overexposure are intense lachrimation and irritation of mucous membranes, 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.

**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to wildlife. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**PHYSICAL HAZARDS:** Do not use or store near heat, open flames, or sparking electrical equipment.

**CHEMICAL HAZARDS:** Do not use application devices incorporating natural rubber or aluminum or magnesium or their alloys, do not use water to clean them (Diesel oil is satisfactory).

**DIRECTIONS FOR USE**

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

**PROTECTIVE CLOTHING:** Wear loose cotton long sleeve shirt and pants, shoes and socks that are cleaned after each wearing. Do not wear jewelry, gloves or boots when handling. Methyl bromide and chloropicrin are 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. After application, immediately remove clothing, shoes and socks. Do not reuse contaminated clothing or shoes until cleaned. Drenched clothing cannot be adequately decontaminated.

**PESTICIDE STORAGE, HANDLING AND DISPOSAL**

**PESTICIDE STORAGE AND HANDLING:** Store in dry, cool, well-ventilated area under lock and key. Post as a pesticide storage area.

Do not contaminate water, food or feed by storage. 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, forklift or other device to which the cylinder can be firmly secured.

Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, either contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance, or follow registrant's instructions for return of partially empty cylinders.

**CONTAINER DISPOSAL:** When cylinder is empty, close valve by turning clockwise until hand tight, screw safety cap onto valve outlet, and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose. Follow registrant's instructions for return of empty or partially empty cylinders.

**RETURN OF CYLINDERS:**

(1) Cylinders are the property of the manufacturer or distributor where purchased and should be returned promptly by collect freight.

(2) Do not ship cylinders without safety caps or valve protection bonnets.

(3) When a cylinder is partially full and there is no further requirement for the product, contact the manufacturer or distributor for return instruction.

(4) Containers should never be refilled by the consumer or used for any other product or purpose.

### SPECIFIC DIRECTIONS FOR USE

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 precaution and directions, including those in the Manual for the Safe Handling and Application of Methyl Bromide Products No. AM-210.

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 (see the Product Manual No. AM-210).

**Respirator Protection:** If the concentrations of methyl bromide and chloropicrin in the working area, as measured by a direct-reading detector device (e.g., Draeger, etc., as described in the product manual), do not respectively, exceed 5 ppm (20 mg/m<sup>3</sup>) and 0.1 ppm (0.7 mg/m<sup>3</sup>), no respiratory protection is required.

If both or either of these concentrations is exceeded at any time, all persons in the working area must wear protective clothing and a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator (see Product Manual No. AM-210).

Do not fumigate with this product when soil temperature is below 50°F at 6-8 inches

## PRECAUTIONS FOR USAGE PRIOR TO, DURING, AND AFTER SOIL FUMIGATION

Specific instructions for application appears in the Manual for the Safe Handling and Application of Methyl Bromide Products No. AM-210

**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 systems 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 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".

All trash should be cleared from the field before starting fumigation.

**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.

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.

**Placarding or Posting Required:** (Check with local authorities in your state concerning the need to post fumigated areas). 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 ENTREE".
3. The date of fumigation.
4. Name of fumigant used.
5. Name, address, and telephone number of the applicator.

Only a certified applicator or someone under his/her supervision may remove placards, and only when the concentration of methyl bromide in the treated site is below 5 ppm.

**After fumigation:** Post all treated areas with warning signs.

Keep all animals, children and unauthorized people away from area under fumigation for 48 hours after fumigation and during removal of tarpaulin.

Two trained persons must be present during removal of the tarpaulin.

**Aeration and Reentry:** 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 protective clothing and a respiratory protection device (SCBA or combination air-supplied/SCBA) is worn.

**Spill and Leak Procedures:** 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 problem. Approach from upwind to make necessary repairs. Do not reenter area without respiratory protection until a spill has evaporated or a 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.

Specific instructions for application of 50-50 to field soils appear in the Product Manual No. AM-210.

## GENERAL INFORMATION

50-50, a preplant soil fumigant, is used for the control of soil-borne pests such as

Wireworms, June beetle larvae, white grubs and garden symphylan in the soil at the time of planting

Soil-borne fungi, including Verticillium, Fusarium, Pythium, Rhizoctonia, Phytophthora, Pyrenochaeta, Sclerotinia, Sclerotium, Armillaria, and the clubroot organism, Plasmodiophora

Nematodes (such as Criconemoides, Tylenchus, Pratylenchus, Xiphinema and Paratylenchus, species)

Broadleaf and grassy weeds such as annual bluegrass, broomrape, common lambsquarters, topsoilgrass, nutsedge, Bermudagrass and quackgrass at higher rates

50-50 is not effective against mallow, maree, dodder, some species of clover, and certain other hard seeded weeds. Crops listed below can be treated

## SOIL PREPARATION

Before treatment the soil should be in condition for planting and with sufficient moisture to support seed germination. If fumigation is being done to control nutsedge, till the soil to a depth of at least 15"

## APPLICATION

Apply with chisels spaced from 12" to 18" apart, and inject 50-50 to a depth of 5 to 8" below soil surface. Seal fumigant with a drag or cultipacker immediately behind chisels and then cover with a gas-tight tarpaulin

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. The usual chisel spacing for methyl bromide treatment is 12" and it is assumed that each chisel treats a 12" strip when injected at a depth of 5 to 8".

<sup>2</sup>Use the higher rates for nutsedge control

<sup>3</sup>Plants grown for transplanting

<sup>4</sup>Growing difficulties in treated soil may be experienced with Carnations, Conifers, Delphiniums, Holly, Multiflora Rosa, Salvia, Snapdragons, and certain other crops

After 48 hours remove tarpaulin and allow the soil to aerate for two weeks before planting. Pepper seeds can be direct seeded through the use of plug mix after 72 hours

**CITRUS SOIL TREATMENT FOR CONTROL OF PHYTOPHTHORA\* IN FLORIDA SANDY SOILS**  
This is a preplant or replant treatment. Do not apply to soil where trees will bear harvestable fruit within 24 months. Use a minimum of 1½ lbs/100 sq. ft. Expose to fumigation for 96 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

Apply with chisels spaced 12 inches apart to a depth of 8 inches. Seal fumigant with a drag or cultipacker immediately behind chisels. Cover with a gas-proof tarpaulin. Remove tarpaulin after recommended fumigation period and aerate soil for 2 weeks before planting. If odors persist, disc or plow the soil to assist aeration

Do not apply 50-50 when there is little or no air movement

Do not apply near buildings inhabited by humans or livestock or in area adjacent to fields where valuable crops are growing

\*Phytophthora diseases controlled are root rot and crown rot

#### NOTE:

Following soil fumigation, undesirable concentrations of chloropicrin may drift to nearby areas. If this occurs, immediately cover treated area with a plastic tarpaulin. Leave tarpaulin on overnight and remove during the daytime. Recover the area if eye irritation indicates that the undesirable concentration is continuing. These concentrations are most likely to occur in the evening or at night when the air is most likely to be static in movement. Do not make application of 50-50 when there is little or no air movement or there is an inversion condition in the atmosphere

**NOTE CAREFULLY:** Following fumigation, the level of soluble salts and ammonia nitrogen may be raised. This is most likely to occur when heavy rates of fumigant and fertilizers are applied to soils that are either acid, wet, cold, or high in organic matter. Fertilizers containing ammonium salts should not be used. Apply only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65°F. in order to avoid ammonia injury, nitrate starvation, or both. After fumigation, fertilize as indicated by soil test to protect against injury to plant roots. It is best that highly acid soils be limed before application to stimulate nitrification and reduce the possibility of ammonia toxicity.

#### NOTICE

Many pesticidal chemicals are poisonous and may leave a toxic residue on the plants to which they are applied. The U.S. Food and Drug Administration has established maximum amounts of such pesticide that may remain on raw agricultural products at harvest, and it is the user's responsibility to see that there is no residue on such crops at harvest in excess of these amounts. The "Fumigation Directions" are based on the best available information, and if followed carefully should not leave excessive residues at harvest. However, Ameribrom, Inc. assumes no responsibility as to their accuracy nor for any loss due to excessive residues

**METHYL BROMIDE AND  
MORE THAN 2%  
CHLOROPICRIN  
MIXTURE, LIQUID  
NA 1581**



ACCEPTED

8622-39

16 SEP 1988

UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND ROENTICIDE ACT  
FOR ECONOMIC POISON REGISTRATION  
AND UNDER FEDERAL INSECTICIDE SUBJECTS  
TO ATTACHED COMMENTS

6

INHALATION HAZARD

843

88-27-9