

**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.

PRECAUTION AL USUARIO

Si usted no lee Ingles, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

M-B-R 33

SOIL FUMIGANT

FOR PREPLANT CONTROL OF MANY SOIL-BORNE PESTS
IN PLANT BEDS AND NURSERIES

ACCEPTED
MAR 26 1980
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 3377-17

ACTIVE INGREDIENTS:

- METHYL BROMIDE.....67%
- CHLOROPICRIN.....33%

KEEP OUT OF REACH OF CHILDREN

DANGER



POISON

PELIGRO

IN ALL CASES OF OVER-EXPOSURE, GET MEDICAL ATTENTION IMMEDIATELY. TAKE PERSON TO A DOCTOR OR 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, apply artificial respiration. Do not give anything by mouth to an unconscious person.

IF ON SKIN — Immediately remove contaminated clothing, shoes, 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.

ETHYL CORPORATION
451 Florida Street
Baton Rouge, LA 70801



In case of an emergency endangering life or property involving this product, call collect (504) 344-7147

EPA Reg. No. 3377-17
EPA Est. No. 3377-AR-1
EPA Est. No. 14775-FL-01

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POISON

LIQUID
NA 1581

METHYL

BROMIDE

AND MORE THAN 2%

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CHLOROPICRIN MIXTURE,

ENVIRONMENTAL HAZARD

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.

CHEMICAL HAZARD

M-S-R 33 is 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, zinc or their alloys.

SPILL OR LEAK PROCEDURE

Evacuate immediate area of spill or leak. Use SCBA or combination air-supplied/SCBA respirator for entry into affected area to correct problem. Move leaking or damaged cylinders or containers outdoors or to an isolated location, observing strict safety precautions. Work upwind if possible. Allow spill to evaporate. Do not permit entry into spill area by unprotected persons until concentration of methyl bromide is determined to be less than 5 ppm, and the chloropicrin concentration is determined to be less than 0.1 ppm.

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.

WARRANTY

Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

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PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS AND DOMESTIC ANIMALS

DANGER

EXTREMELY HAZARDOUS LIQUID AND VAPOR UNDER PRESSURE. DO NOT BREATHE VAPOR. INHALATION MAY BE FATAL OR CAUSE SERIOUS ACUTE ILLNESS OR DELAYED LUNG, NERVE OR BRAIN 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. 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.

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 period of no exposure. Blood bromide levels suggest the occurrence, but not the degree, of exposure. Treatment is symptomatic. See the product MSDS for additional information.

RESPIRATORY PROTECTION

If the concentration of methyl bromide in the working area, as measured by a suitable detector, does not exceed 5 ppm (20 mg / m³), no respiratory protection is required.

This detection method requires a small hand held pump and methyl bromide detector tubes. The air sample is drawn through two small chemical reagent tubes in which the methyl bromide is decomposed by an oxidizing agent to liberate bromine. The bromine concentration is then indicated by color formed in reaction with O-tolidine. The detector tubes are capable of measuring methyl bromide concentrations of 2.5-500 ppm. Methyl bromide detector tubes and pumps listed below are available from safety supply distributors.

1. Sensidyne/Gastec pump, part number F-7010657, detector tube #136.
2. Draeger pump, part number CH 304, detector tube #67-28211.
3. Matheson-Kitagawa pump, part number 8014K, detector tube #157Sb.

If the 5 ppm, methyl bromide and the 0.1 ppm chloropicrin concentration is exceeded at any time, all persons in the fumigation area must wear a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator.

The Matheson-Kitagawa pump (8014) and detector (tube # 172) is capable of measuring chloropicrin concentration of 0.1-15 ppm.

After fumigation, treated areas must be aerated until the level of methyl bromide is below 5 ppm and chloropicrin is below 0.1 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.

PROTECTIVE CLOTHING

Wear loose shirts and pants, shoes and socks that are cleaned after each wearing. Do not wear jewelry, gloves or boots 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. After application, immediately remove clothing, shoes and socks. Do not reuse contaminated clothing or shoes until cleaned. Drenched clothing cannot be adequately decontaminated.

STORAGE AND DISPOSAL

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 or disposal.

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.

CONTAINER DISPOSAL

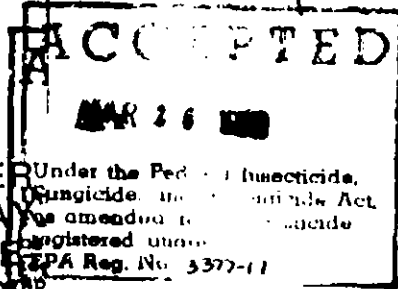
When cylinder is empty, close valve, screw safety cap onto valve outlet, and replace protection bonnet before returning to shipper. Only the registrant is authorized to refill cylinders. Do not use cylinders for any other purpose. Follow registrant's instructions for return of empty or partially empty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

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, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representatives at the nearest EPA Regional Office for guidance.

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DIRECTIONS FOR USE

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

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. 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 soil temperature is below 50°F.

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 product manual.

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: Use M-B-R 33 for preplanting application in soil for control of nematodes, certain soil-borne diseases, insects, and weeds in nurseries and in certain seed bed, plant bed and field crop areas. Typical pests controlled are nematodes such as root-knot, lesion, dagger, stunt, spiral, cyst formers, lance, citrus, burrowing, false root-knot, ring, stubby root, awl sheath, stunt, sting and pin damping off diseases caused by certain species of Rhizoctonia, Pythium, Fusarium, Phytophthora, Pyrenochaeta, Sclerotinia and certain others, insects (wireworms, cutworms, rootworms, and white grubs) in the soil at time of treatment and weeds such as chickweed, pigweed and nutgrass, crabgrass, goosegrass, crowfootgrass, barnyardgrass, purslane, morning glory and many other broadleaf and grass weeds. M-B-R 33 will give excellent performance in forest tree, ornamental shrub and turf, nurseries, in annual and perennial flower, tomato, tobacco, strawberry and ornamental seed and plant beds. In vegetable seed beds for production of transplants only, and in soil where asparagus, broccoli, cauliflower, eggplants, lettuce, melons (excluding watermelons), onions (dry bulb), peppers, pineapples, strawberries and tomatoes are to be grown for food.

WHEN TO TREAT: Treatments can be made in the spring, summer, or fall 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.

SOIL PREPARATION: To facilitate fumigant penetration crop residues should be worked into the soil and allowed time to decompose before treating. Soil must be in good and workable seed bed condition, with a temperature between 50°F and 60°F at the five-inch level and with adequate moisture for good seed germination. Deep tillage, 12 to 18 inches, often improves results, especially in heavy or muck soils.

APPLICATION AND DOSAGE: For overall application of M-B-R 33 use 250 to 350 pounds per acre with chisel-type applicator, having the chisels spaced no more than 12 inches apart and injecting the fumigant at a depth of 6 to 8 inches below the soil surface. For row applications, use at the same dosage rates per acre as suggested for over-all treatment. The actual amounts used per acre, however, will be proportionately less and dependent upon the distance between rows and the width of the treated row area. Due to the volatility of this fumigant, treated soil must be covered with polyethylene film immediately after treatment with simultaneous film laying equipment or by sealing with a roller or cultipacker immediately behind the injection chisels and covered within 20 minutes, with polyethylene film or other suitable gas tight tarpaulin.

ACCEPTED

MAR 26 1980

Under the Federal Fungicide, Insecticide, and Plant Regulator Act, as amended, registered under EPA Reg. No. 3377-17

DOSAGE TABLE FOR M-B-R 33

Pest Control Desired	TYPE OF SOIL OR MATERIAL	Dosage	Minimum Exposure Time*	Aeration Time Before Planting**
Nematodes, insects and weed seeds	Turf Renovation: Lawns, parks, golf greens, athletic fields and other ornamental and recreational turf areas. Nonfood and Nonseed Crop Areas: Seed and plant beds for tobacco, flowers, shade and forest trees, ornamental shrubs and vines, and other similar plants. Also vegetables for production of transplants only.	1 lb per 100 sq ft	24 hrs	48 hrs
	Permanent planting sites for tobacco, flowers, shade and forest trees, ornamental shrubs and vines and other similar plants.			
	Food Crop Areas: Field soils for planting of asparagus, broccoli, cauliflower, melons (except watermelon), eggplants, lettuce, onions (dry bulb), peppers, pineapples, strawberries, and tomatoes.	250 to 350 lbs per acre	48 hrs	14 days
	Well rotted compost, manure and top soil.	1/2 lb. per cu yd	24 hrs	72 hrs
	Mulching straw or hay.	1 1/2 lb per 6 bales	48 hrs	24 hrs
Damping-off organisms such as: Pythium, Rhizoctonia, Fusarium	Turf Renovation: Some sites as listed above. Nonfood and Nonseed Crop Areas: Same plants as listed above.	2 lb per 100 sq ft	24 hrs	72 hrs or longer
	Food Crop Areas: Same crops as listed above.	250 to 350 lbs per acre	48 hrs	14 days
	Well rotted compost and manure	1 lb per cu yd	24 hrs	72 hrs or longer
Citrus, burrowing, root knot, nematodes, Phytophthora and Armillaria root rot organisms.	Protecting replacement trees by replant site fumigation of sandy and fine-textured clay soil in peach and almond orchards and citrus groves.	2 lb per 100 sq ft	48 hrs	14 days

* Exposure and aeration times should be doubled if soil temperature is between 50°F and 59°F. M-B-R 33 should not be used if temperature is below 50°F.
** Soil in which plants are to be set should be aerated for a week to ten days.

AERATION: Remove tarpaulin after 24 to 48 hours. Allow the soil to aerate for two weeks before planting. If, after this period, M-B-R 33 persists in the soil as indicated by odor or by eye irritation on close examination, disc or plow the soil to help aeration. Crop seeds may be planted after 96 hours following the end of exposure period. Where polyethylene film is to be utilized as a mulch, aeration is accomplished by making holes in the film and planting the crop directly through the film.

DIRECTIONS FOR USE (Continued)

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GREENHOUSES: The use of methyl bromide and chloropicrin in enclosed spaces presents a potential hazard to humans and plant life. Before fumigation, train all personnel involved in fumigation (including use of safety equipment). Never fumigate alone. 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. Do not allow entry into treated areas without respiratory protection until methyl bromide level is below 5 ppm and chloropicrin is below 0.1 ppm. Follow directions for AERATION and USE PRECAUTIONS.

FLORIDA CITRUS: Preplant or replant treatment of citrus soil for control of Phytophthora and citrus nematodes. Trees which are planted in this treated soil will not bear harvestable fruit for a period of at least 24 months. Apply M-B-R 33 at the rate of 1.5 to 2 lbs per 100 square feet with chisels spaced 12 inches apart to a depth of 6-8 inches. Seal immediately with polyethylene film and expose soil to fumigation for 96 hours. Remove cover after exposure and aerate for a minimum of two weeks before setting transplants in treated soil. For non-tarp nematode control: Inject to a depth of 16-24 inches when tarp is not used.

ACCEPTED
MAR 26 1991
Under the Federal Insecticide, and Rodenticide Act, as amended, for the use registered under EPA Reg. No. 3377-17

USE PRECAUTIONS

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 plants, fertilize as indicated by plant nutrient tests made after fumigation. To avoid ammonia injury or nitrate starvation, or both, to crops, avoid using fertilizers containing ammonium salts and use only those containing nitrate nitrogen until after the crop is well established and the soil temperature is above 65°F. Certain crops are tolerant to ammonia, therefore the above rule does not apply to them. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

NOTE: To avoid the possibility of exceeding residue tolerances, food crops other than those shown on label should not be grown to maturity in soil treated with M-B-R 33 soil fumigant. Transplant such crops to untreated soil or to soil treated according to registered pesticide uses.

Vapors of M-B-R 33 are extremely irritating to the eyes. Provide good ventilation when applying or transferring it to other containers. If the 5 ppm methyl bromide and the 0.1 ppm chloropicrin concentration is exceeded at any time, all persons in the fumigation area must wear a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator.

M-B-R 33 should not be applied when there is little or no air movement nor when there is an atmospheric inversion. Do not apply to areas adjacent to fields where valuable crops are growing or near buildings inhabited by humans or livestock.

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 or persons in charge must advise other workers of all precautions and procedures. In addition, they 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 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 cleaned 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.

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.

PLACARDING OF 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 & 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.

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 and the chloropicrin concentration is below 0.1 ppm.

FOR SPILL OR LEAK DURING FUMIGATION

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.

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