

3377-15

Center Front Panel

3371-15

# 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-100R

## PENETRATING FUMIGANT FOR FUMIGATION OF STRUCTURES, AND BULK SOIL

ACCEPTED

3377-15

20 SEP 1988

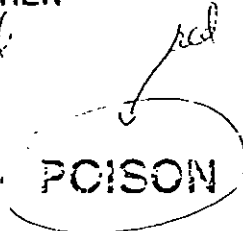
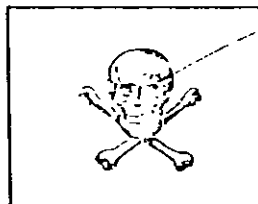
UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND ROENTGENIDE ACT  
OR ECONOMIC POISON REGISTER  
UNDER NO. .... SUBJECT  
... ATTACHED COMMENTS.

ACTIVE INGREDIENT:	
METHYL BROMIDE .....	99.7%
INERT INGREDIENT:	
CHLOROPICRIN .....	0.3%

KEEP OUT OF REACH OF CHILDREN

DANGER

PELIGRO



IN ALL CASES OF OVER EXPOSURE, 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, 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. 3377-15  
EPA Est. No. 3377-AR-1

NET CONTENTS..... LBS.

**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.

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 cylinders.

**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.

**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.

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.

**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**

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M.B.R. is ~~non~~ nonflammable. There is no danger from fire or explosion in use concentrations. However, flame can change the chemical to produce some corrosive damage to combs 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 odors when encountered in structural fumigation and should be removed from the space being fumigated:  
1. Foodstuffs: (a) loosed 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 case-locks  
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 skins, (especially leather goods)  
4. Leather goods, particularly white kid or any other leather goods tanned with sulfur processes  
5. Woods: Extreme caution should be used in the fumigation of any angora woods, and some adverse effect has been noted on the fumigation of wooden suits, coats, blankets, handkerchiefs, wooden socks, sweaters, shirts, and wooden yarn.  
6. Viscose Rayons: Those rayon processed or manufactured by a process in which carbon disulphide is used.  
7. Paper: (a) Silver polishing papers (b) certain writing papers cured by sulphite processes  
8. Photographic chemicals as used in photo processing darkrooms (does not include camera film)  
9. Pig padding  
10. Cider blocks  
11. Mired 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.

Return empty containers for reuse.

**BEST AVAILABLE COPY**

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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 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.

**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 / m<sup>3</sup>), 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. 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].

**PROTECTIVE CLOTHING**

Wear loose cotton long sleeve 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.

**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 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.

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.

Return empty containers for reuse.

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**METHYL BROMIDE  
LIQUID  
UN 1062**

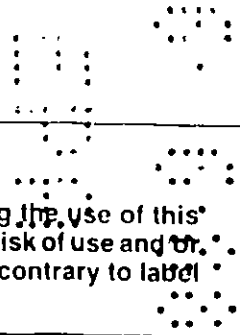


**POISON**

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**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 handling of this material when such use and/or handling is contrary to label instructions.



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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.

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.

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 or commodities), two persons trained in the use of this product must be present at all times 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).

Keep animals, children and unauthorized people away from area under treatment until area is certified free of M.B.R. **100%**.

(NOT REGISTERED FOR USE IN CALIFORNIA)

**SPACE AND STRUCTURAL FUMIGATION**

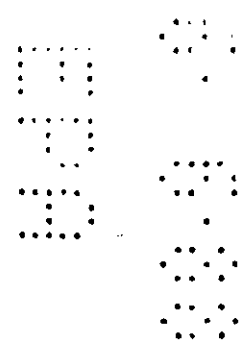
Fumigation must be carried out in gas-tight chambers or under tarpaulins. In case of structural fumigation, the structure must be satisfactorily sealed by the usual caulking and taping. If not, it may still be space fumigated if it is possible to enclose it completely in a gas-tight tarpaulin. The tarpaulins are usually made of polyethylene or coated nylon, and there are special clamps for attaching them together. Extreme care must be taken to insure a good seal at the base and that the liquid does not contact the tarpaulin. Warning signs should be posted on each side, prior to fumigation. Space and structural fumigation should be done only by certified applicators. Before fumigation, remove all materials that might come in contact with the fumigant made of rubber, synthetic rubber, horsehide, furs, and any articles containing sulfur compounds. Remove foods such as vegetables, oils, butter, and iodized table salt as they may develop an unpleasant taste or odor. In no case can freedom from odor be guaranteed in fumigated commodities. All open flames and electric heaters should be extinguished to avoid corrosion of metallic parts.

*Do not fumigate sites which maybe used for storage or transport of raw agricultural commodities*

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.

APPLICATION RECOMMENDATIONS*			
Type of Confinement	Number of 1 1/2 lb. cans (Total lbs.)	Temperature °F	Exposure
Steel Boxcars—Good Condition	7(10 1/2 lbs.)	50+	12-18 hrs
Steel Boxcars—Fair Condition	8(12 lbs.)	60+	12-18 hrs
Wood Boxcars—Good Condition	8(12 lbs.)	60+	12-18 hrs
Wood Boxcars—Fair Condition	10(15 lbs.)	60+	12-18 hrs
Tarpaulin	1 per 1,000 cu ft	70+	24 hrs
Vacuum Chambers 25" 27" Vacuum	1-2 per 1,000 cu ft Increase 50% for bales & tobacco	60+	3 hrs
Atmosphere Chambers	1 per 1,000 cu ft	60+	12-24 hrs
Buildings less than 100,000 cu ft	1-2 per 1,000 cu ft	60+	24 hrs
100,000-500,000 cu ft	1 per 1,000 cu ft	60+	24 hrs

\*Before using these dosages read use and handling literature as listed elsewhere.



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## DIRECTION FOR USE (CONTINUE)

**SOIL FUMIGATION**

M-D-R 100<sup>100</sup> Controls weed seeds, nematodes, wireworms and soil fungi in production of transplants in bulk soil and seedbeds in greenhouses, hot beds and cold frames.

Before fumigating, plant beds and bulk soil should be conditioned in accordance with good agronomic practices. M-D-R 100 will penetrate only as deeply as the soil is cultivated. An area from 6 to 10 feet wide, and up to 100 feet long may be fumigated effectively. Bulk soil should not be more than 2 feet in depth.

Dosages should be 1 to 2 pounds per 100 square feet, for 24 hours, at 60° F. and above soil temperatures. For bulk soil treatment, use 1/2 pound per cubic yard of soil. Use the higher dosage rate for control of soil fungi.

For seed beds and bulk soil, vaporizing pens should be placed at 20-25 foot intervals, down the center of the prepared soil. Place a plastic tube in each pan, anchor it to the soil, and extend it at least three feet beyond the edge of the bed and connect it to the M-D-R 100 cylinder. Place burlap bags filled with straw or hay or crumpled wet fertilizer bags around the perimeter of the bed as support for the tarpaulin. Cover the entire bed with a gas-proof tarpaulin.

Seal the edges of the tarpaulin by covering it with dirt. A trench around the edges of the bed will facilitate this.

Following fumigation, aerate for at least 3 days prior to seeding, or 5 to 14 days before setting vegetative growth. Reworking the soil prior to seeding or planting is desirable. Comply with all local ordinances and state regulations pertaining to fumigation and in treatments of commodities.

Keep animals, children, and unauthorized people away from area under treatment until area is certified free of methyl bromide.

**BEFORE 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 operation "up wind" from the container where there is good ventilation.

Check fumigant pressure system for leaks before beginning operation.

No 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 trench is inadvertently pulled by the shanks to the ends of the field when fumigating, it may be covered by lifting the shanks, then covering the trench 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.

No trained persons must be present during removal of the tarpaulin.

## HANDLING PRECAUTIONS

Methyl Bromide is a highly hazardous material and must be handled with care. Observe the following precautions.

1. Before using read and follow all label directions and literature pertaining to the use for which you plan to utilize Methyl Bromide.
2. Do not breathe vapor.
3. Do not spill. If liquid Methyl Bromide spills on shoes or clothing, remove them at once and do not wear them again until aired outdoors for several days. Do not wear gloves when applying Methyl Bromide.
4. When using Methyl Bromide, safety glasses should be worn.
5. Keep animals, children and unauthorized people away from area under treatment and until the area is certified free from Methyl Bromide as determined by a halide leak detector.
6. When fumigating buildings, boxcars and other structures, apply the fumigant from outside the structure. Make sure all windows and doors are sealed and the area posted. Signs may be obtained from your local supplier of Methyl Bromide.
7. Fumigated areas must be placarded on all entrances with signs containing at least the signal word DANGER and the "Skull & Crossbones" and the words "Area under fumigation, do not enter until completely aerated, the date of the 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."
8. Do not move railcars, trucks, vans, or trailers during fumigation. They must be completely aerated before movement is allowed.
9. Store Methyl Bromide in a cool place away from dwellings.
10. Do not enter a treated area without a gas mask unless you have checked the area with a halide leak detector to make sure dangerous concentrations of gas are not present. If there is any doubt, wear a gas mask. A full face gas mask with an air supply (tank or airline) is recommended. Read and follow the gas mask manufacturer's recommendations. A full face mask with a fresh black canister meeting specifications of the U.S. Bureau of Mines for organic vapors can also be used under certain circumstances where the vapor concentration is known to be under 2% by volume (5 lb. per 1000 cu. ft.). Canisters should be used for no more than one-half hour. Destroy used canisters by crushing.
11. 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.
12. Always have an assistant and proper equipment when using fumigants to aid in case of accidents.
13. It is advisable to supply your physician with information on Methyl Bromide.

## GENERAL INFORMATION

M-B-R-100R, Methyl Bromide, is designed for application in confined areas for the control of rodents and insect pests of ~~plant material, furniture, clothing, and other materials such as burlap bags, lumber and cut Christmas trees.~~

While in the container, Methyl Bromide is a liquid under pressure. It turns to a gas when released, which must be contained under a gas-proof cover of plastic or plastic-coated fabric or in a container or structure sealed so it is air tight. Both the liquid and the gas are poisonous. The liquid may cause burns on skin contact. High concentrations of vapors, especially in hot, humid weather, may cause skin irritation. Observe all Precautionary Labeling, Use and Handling instructions given on this overwrap and on the product label.

## USES

Methyl Bromide is recommended for the control of rodents and insect pests infesting ~~plant material, furniture, clothing, and other materials such as burlap bags, lumber and cut Christmas trees.~~ in railroad boxcars, trucks, vans or by treatment under a gas proof cover, tarpaulin or in an atmosphere or vacuum chamber.

Before using Methyl Bromide for these purposes, consult complete directions given in the following literature available from Ethyl Corporation.

- "Methyl Bromide for Boxcar Fumigation" (Form No. 132-89)
- "Operating Information on Tarpaulin Fumigation with Methyl Bromide" (Form No. 132-59)
- "Chamber Fumigation with Methyl Bromide" (Form No. 132-75)
- "Safety Precautions for Fumigation with Methyl Bromide" (Form No. 132-4)
- "Methyl Bromide Fumigation of Trucks, Trailers, Vans, and Containers" (Form No. 132-192).

Where large structures or storage areas are to be treated, it may not be feasible to use Methyl Bromide in 1 1/2 pound cans. If such is the case, Methyl Bromide may be purchased in cylinders containing from 10 to 375 pounds of fumigant. Before using the larger packages of Methyl Bromide, read the following:

- "How to Fumigate Buildings with Methyl Bromide" (Form No. 132-47)

## APPLICATION EQUIPMENT

Cans of Methyl Bromide should be opened only with special equipment designed for this purpose. The available applicator is the Star Model 1.5 Opener (Southeastern Tool and Die Company, 1420 Hala's Drive, Charlotte, North Carolina). The applicator punctures the can and gaskets the opening, allowing the fumigant to discharge through the attached tube into the confined areas to be treated. To avoid possible contact with Methyl Bromide when using the above applicator, follow these simple rules:

1. Place can in applicator cradle, draw handle quickly toward body of can until piercing point has entered can and gasket is seated. It is important not to puncture the can on the side seam and to keep the point of puncture at the lowest point in the can while it is being emptied so that the pressure within the can will cause the liquid to flow through the tubing. If the can is punctured high, fumigant vapors rather than liquid will flow through the tubing, the contents of the can will be cooled and pressure may be reduced to a point where it may be quite difficult to get the liquid out of the can.
2. Do not open cans without first making certain fumigant will be dispensed when desired.
3. Do not disconnect applicator from can or from polyethylene tubing until can is completely empty of fumigant. The applicator is not equipped with a valve or other device to stop the flow of fumigant after the can is punctured.
4. In case of breakage or failure of the applicator to puncture or seal the can properly, keep away from the can until all the fumigant has evaporated and the vapors carried away.

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