

Center Panel

RESTRICTED USE PESTICIDE

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
DEC 12 1984
United States
Fungicide, Insecticide
as amended for use,
registered under
EPA Reg. No. 3377-16


M-B-R -2 PENETRATING FUMIGANT

For the Treatment of Soil to Control Certain Weeds, Grasses, Nematodes and Insect Pests

ACTIVE INGREDIENTS:
METHYL BROMIDE 98%
CHLOROPICRIN 2%



KEEP OUT OF REACH OF CHILDREN]

[DANGER]  [POISON]

SEND FOR A DOCTOR IMMEDIATELY
IN CASE OF EXPOSURE

STATEMENT OF PRACTICAL TREATMENT

IF INHALED — Carry Patient To Fresh Air Call Physician At Once Make Sure Patient Can Breathe Freely Keep Patient Warm. Give Artificial Respiration If Breathing Has Stopped Oxygen Should Be Administered Only By Qualified Personnel.

IF ON SKIN — Immediately Remove All Contaminated Skin Covering Including Shoes, Clothing And Adhesive Or Other Bandages Wash Skin Thoroughly With Soap And Water. If Irritation Or Blisters Develop. Get Medical Attention Do Not Reuse Shoes Or Clothing Until Free Of All Contamination

IF IN EYES — Flush Immediately With Plenty Of Water For At Least 15 Minutes And Get Medical Attention

NOTE TO PHYSICIAN — Keep Patient At Rest And Under Observation For 24 To 48 Hours

12pt
18pt
18pt in red
in red

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. 3377-16
EPA Est. No. 3377-AR-1

CONTAINS 6 — 1.5 LB CANS
4.08 KG/9 LB NET WT

**PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS
AND DOMESTIC ANIMALS**

DANGER

This fumigant is a highly hazardous material and must be handled with care only by those individuals experienced with its proper use. Consult your dealer representative or Ethyl Corporation for correct procedure. Before using, read and follow all label directions and product literature specific to your particular requirements.

**EXTREMELY HAZARDOUS LIQUID AND VAPOR
UNDER PRESSURE
INHALATION MAY BE FATAL OR CAUSE
DELAYED LUNG INJURY
LIQUID AND VAPOR CAUSE BURNS WHICH
MAY BE DELAYED
OBSERVE THE FOLLOWING PRECAUTIONS:**

DO NOT BREATHE VAPORS:

1. M-B-R-2₁ has no appreciable odor. Use only with adequate ventilation. Do not enter a treated area without respiratory protection unless you have checked the area with a Halide Gas Detector to make sure dangerous concentrations of gas are not present. If there is any doubt, wear a gas mask.

RESPIRATORY PROTECTION

A full face gas mask with an air supply (tank or airline) is recommended or wear a full face gas mask with black canister meeting specifications jointly approved by the Mining Enforcement and Safety Administration (formerly the U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health under the provision of 30 CFR, PART 11, where the vapor concentration is known to be under 2% by volume (5 lbs per 1000 cu ft). Read and follow the gas mask manufacturers recommendations, note carefully those regarding canister use periods. Destroy used canisters by crushing. Chloropicrin must never be depended upon as an identifying agent when a canister gas mask is used.

DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

2. Should shoes or clothing become contaminated, remove at once and do not wear again until aired outside for several days.
3. Do not wear gloves of any type, ordinary rubber protective clothing or boots.
4. Do not spill or discharge contents outside of areas confined for treatment.
5. Wear safety glasses when dispensing M-B-R-2₁.
6. Keep cylinders away from heat sources, such as heating devices.
7. Always have an assistant to aid in case of accidents when releasing fumigant from inside of a structure. Wear appropriate respiratory protection.
8. Keep animals, children and unauthorized people away from area under treatment until area is certified free of M-B-R-2₁.

WARNING SIGNS

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 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."

STORAGE AND DISPOSAL

STORAGE

Do not contaminate water, food, or feed by storage or disposal. Do not store with clothing.

Storage areas should be:

- (1) Secured by lock and key
- (2) Posted as pesticide storage
- (3) Away from dwellings and work areas
- (4) Dry and cool
- (5) Well ventilated

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 representatives at the nearest EPA Regional Office for guidance.

SPILL OR LEAK PROCEDURE

Evacuate affected area, use respiratory protection and correct problem. Move cylinder outdoors or to an isolated location. Allow to evaporate. Do not permit re-entry to area until free of fumes.

Dispose of empty containers in non-cropland away from water supplies or follow official state and/or local recommendations for container disposal.

IMPORTANT: Use and handling instructions on this overwrap

DO NOT DISCARD. Read precautions on can before using

Dosage Table for **M-B-R-2**

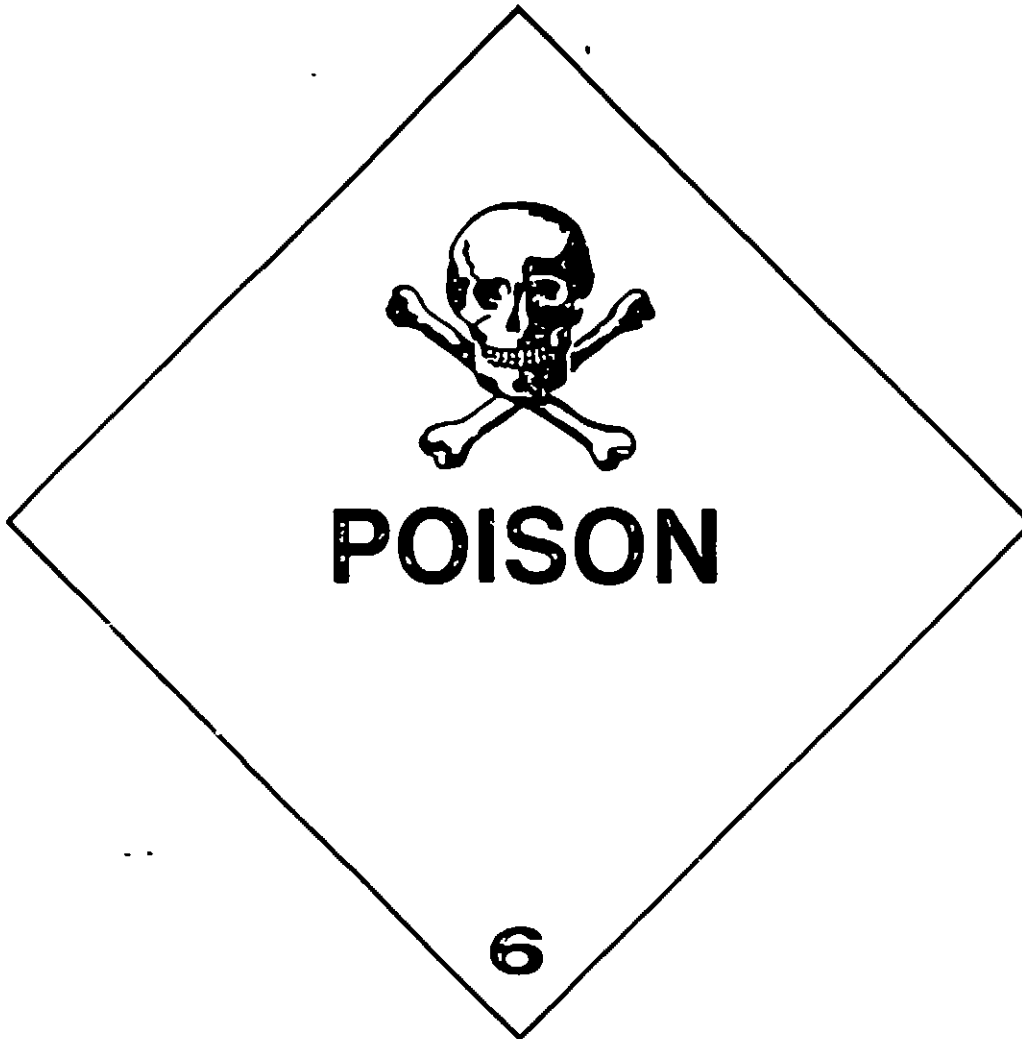
Post Control Desired	TYPE OF SOIL OR MATERIAL	Dosage	Minimum Exposure Time*	Aeration Time Before Planting**
Nematodes, insects and weed seeds	Turf Renovation: Lawn, parks, golf greens, athletic fields and other ornamental and recreational turf areas. Nonfood and Nonfood Crop Areas: Seed and plant beds for tobacco, flowers, shade and forest trees, ornamental shrubs and vines, and other summer plants. Also vegetables for production of transplants only Permanent planting sites for tobacco, flowers, shade and forest trees, ornamental shrubs and vines and other similar plants	1½ lb per 150 sq ft (680g / 14m ²)	24 hrs	48 hrs
	Well rotted compost, manure and top soil.	½ lb per cu yd (680g / 2.3m ³)	24 hrs	72 hrs
	Mulching straw or hay.	1½ lb per 6 bales (680g / 6 bales)	48 hrs	24 hrs
Damping-off organisms such as Pythium Rhizoctonia Fusarium	Turf Renovation: Same sites as listed above Nonfood and Nonfood Crop Areas: Same plants as listed above	3 lb per 150 sq ft (680g / 7m ²)	24 hrs	72 hrs or longer
	Well rotted compost and manure	1 lb per cu yd (680g / m ³)	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.	1½ lb per 100 sq ft (680g / 9.3m ²)	48 hrs	30 days

* Exposure and aeration times should be doubled if soil temperature is between 50°F and 60°F. **M-B-R-2** 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.

477

**METHYL BROMIDE
LIQUID
UN 1062**



WARRANTY

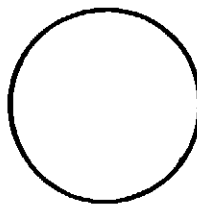
Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

IMPORTANT

Use and handling instructions on this overwrap. **DO NOT DISCARD.** Read precautions on can before using.

DISPOSAL

Dispose of empty containers in non-cropland away from water supplies or follow official state and/or local recommendations for container disposal.



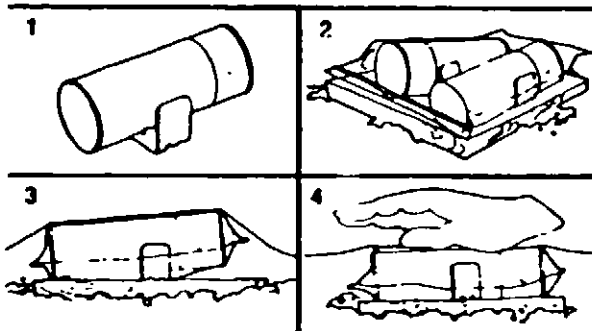
3. With evaporation bags and cans inside properly positioned near edges of bed, cover the entire bed with the plastic gas-proof cover. Place the edges of the cover in the trench around the bed. Seal all edges of cover in trench with soil. Walk heel-to-toe around perimeter compacting the soil in the trench to prevent wind from breaking the seal during fumigation.

4. After cover has been properly sealed, using only your hand, press down firmly on each can until the barb or point of the lance opener has pierced the can. Do not disturb cans, bags or cover or attempt to remove them until after the recommended 24-48 hour exposure period.

After placing the evaporating containers on the seed bed, fasten a polyethylene applicator tube to each, making sure the end is directed into the container. Tubes should extend out from under the gasproof cover when in place, and be long enough to allow the fumigant applicator to be easily attached.

Lay the gasproof cover over the area to be treated placing the edges of cover in the trench or furrow previously dug and seal with earth. Use enough earth to cover the edges to a width of 6 to 10 inches and tamp down firmly. During this operation use special care not to damage the cover.

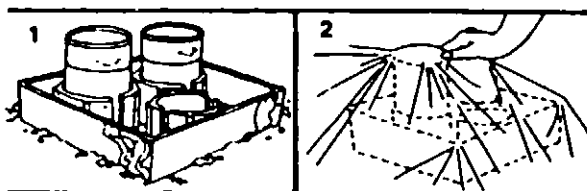
Apply **M-B-R-2** using a Star Model 1.5 applicator previously described. Only one applicator is needed as it is transferred from one polyethylene tube to the next. **CAUTION:** Transfer applicator to next tube only after can of **M-B-R-2**, to which it is connected is completely empty. Have cans of fumigant warm (60°F to 90°F) so fumigant will flow rapidly through the polyethylene tube into the evaporating container. A can should empty in less than one minute. Discharge necessary number of cans into each container being careful not to disturb the earth seal along the cover edge. After application is complete do not disturb either gasproof cover or polyethylene applicator tubes—gas may escape and create a hazard to the operator and reduce effectiveness of the soil treatment.



THE SIMPLEX TRAY OPENER:

The Simplex Tray Opener which serves both as a can-piercing device and as an evaporation tray, is used for soil fumigation under polyethylene covers.

SIMPLEX 2 TRAY OPENER



STAR MODEL 1.5 OPENER: (Southeastern Tool and Die Company, 1420 Metals Drive, Charlotte, North Carolina) The Star applicator punctures the can and gaskets the opening, allowing the fumigant to discharge through the attached tube into the confined area to be treated. To avoid possible contact with **M-B-R-2** when using the Star 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 the 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 where desired.

3. Do not disconnect applicator from can or from polyethylene tubing until can is completely empty of fumigant. This 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.

Set evaporating containers about 30 feet apart under the cover in the area to be treated. Containers such as tin pans or basins of no more than 4 to 5 inches deep can be used, but do not use containers made of aluminum or its alloys. Containers must be large enough to hold about one pint volume for each 1½ lb. can of **M-B-R-2** dispensed.

1. Place tray(s) (one for every 300 sq. ft. to be treated) upright on prepared seedbed. Carefully insert two 1.5-lb. cans into guides to rest lightly upon nails in bottom. **NOTICE:** Do not allow nail to puncture can.

2. With tray(s) positioned near edge of seedbed, cover tray(s) and bed with polyethylene, using soil to seal all edges in prepared trenches. Walk toe-to-heel around entire perimeter, compacting soil to prevent wind from breaking seal during fumigation.

3. From outside gas-tight polyethylene cover, press palm down firmly against each can in turn to puncture can against nail. Use only palm of hand—never use a foot, board, shovel or other hard object which might tear plastic and permit fumigant to escape. Have masking tape or plastic tape available to repair accidental punctures. Do not attempt to remove trays or cans until cover is removed after the 24- to 48-hour exposure period.

EXPOSURE AND AERATION. Let fumigated area stand undisturbed for 24 to 72 hours depending on temperature. Remove cover and let the soil aerate for 24 to 72 hours or more. Work it

3. Be sure treated soil or material is free from M-B-R-2 before seeding or using. Working it will help aeration.

4. Prevent contamination of fumigated areas. If necessary to avoid flooding, trench around them or build wooden or earthen dams. Clean your shoes carefully when walking from untreated to treated soil. Do not use tools, transplants or crop remains that may carry pests from unfumigated areas.

5. Fumigation with M-B-R-2 sometimes slows down the rate of nitrification (the conversion to nitrates from ammonia by bacterial action). Certain ammonia-sensitive plants, such as tomatoes, may suffer growth inhibition or stand reduction when planted in fumigated soils containing high amounts of ammonia nitrogen. To lessen this hazard at least 1/2 and preferably all of the nitrogen fertilizer added immediately before or soon after fumigation should be in the form of nitrate nitrogen. This hazard may also be reduced by delaying planting until several months after fumigation. If a nitrate form of nitrogen such as sodium or calcium nitrate is not readily available, ammonium nitrate used sparingly will supply the nitrogen needed without risk. Phosphorus, potassium and other plant nutrients should be used according to soil needs.

thoroughly to speed further aeration. Some kinds of seed can be planted immediately, sensitive species can not be planted until after several days aeration. Do not set out living plants for at least one week.

WELL-ROTTED COMPOST AND MANURE: Follow the general instructions given above for soil treatment. Conduct fumigations either outdoors or in a well ventilated place. The material should be loose, moist enough for good seed germination, and at a temperature above 60° F. For best results pile the material not over a foot deep on wet ground or on a concrete floor. Piles up to three feet high can, when necessary, be fumigated if perforated every 12 inches. Support the cover a few inches above the material, to permit gas to diffuse, and introduce M-B-R-2 at the highest point of the pile. After exposure, aerate material for one day. Then stir thoroughly and aerate 48 hours or longer before using.

MULCHING MATERIALS: Straw or hay should be thoroughly soaked several days before treatment. At time of treatment, pile the bales up and cover with a gasproof cover sealing edges in the same manner as recommended for soil.

ESTABLISHING WEED-FREE TURF: Lawn grass (seed or sprigs) may be planted after treatment with M-B-R-2 has killed existing grass and weeds. Follow directions given above for seed and plant bed treatment. With an old lawn, the turf is usually worked up before fumigating. If desired, the turf may be left undisturbed. In this case dig a shallow trench around the area in which to seal the edges of the cover before fumigating. After exposure and removal of the cover the treated area may be seeded or sprigged without removing the dead sod. NOTE: Frequent sprinkling after seeding will help ensure a uniform stand.

ADDITIONAL USES: M-B-R-2 fumigant may also be used for the control of insect pests infesting lumber by treatment under gas proof cover (tarpaulin); M-B-R-2 may also be used for preplanting application to control citrus nematode, burrowing nematode, root-knot nematode, Armillaria root rot fungus, Phytophthora root rot and crown rot fungus in sandy and fine textured clay soil tree replant sites in peach and almond orchards and citrus groves.

USE PRECAUTIONS: M-B-R-2 has given excellent results with a wide variety of soils and plants. However, for reasons not clearly understood, plant growth has occasionally been unsatisfactory following treatment. Difficulty has been experienced with carnations, conifers, holly, multiflora roses, snapdragons, and certain other ornamental plants and shrubs. Every grower should experiment on a small scale for at least a full season before extensive use.

For best results, observe the following precautions:

1. Do not treat soil when very cold, very wet or very dry.
2. M-B-R-2 is toxic to all plants. Do not fumigate too close to desirable vegetation. Keep the edge of the cover at least a foot away from the roots of desirable plants and water the root zone thoroughly in area not covered by the tarp or polyethylene cover. If possible pre-soak root zone around desirable plants immediately adjacent to cover to help contain the gas under the cover.

6. Fumigation of soils in organic matter, such as muck, compost and heavily manured soil, may occasionally cause conditions which result in poor plant growth. These soils should be fumigated at least two months before planting.

HANDLING PRECAUTIONS: M-B-R-2 fumigant is a highly hazardous material and should be handled, observing the following precautions:

1. Before using read all label directions and follow them carefully.
2. Do not breathe vapor.
3. Do not spill. If liquid M-B-R-2 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 M-B-R-2.
4. Keep animals and children away from plots while under treatment and for at least 30 minutes after the cover is removed. The warning agent in M-B-R-2, by irritating the eyes, will warn of leaks or spillage in handling and storage. It disappears in a few hours, however, and will not keep children or animals from creeping under the cover.
5. When fumigating inside buildings, keep doors and windows open at all times until after aeration is completed. Good ventilation is essential both for safety and for satisfactory aeration, particularly when fumigating compost and manure.
6. Store M-B-R-2 in a cool place away from dwellings.
7. Application of M-B-R-2 from outside the treated area often eliminates the need of a gas mask during application, however, one should always be at hand for emergency use.
8. Always have a helper to assist with application and any emergency.

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.

BEST AVAILABLE COPY

ETHYL CORPORATION
451 Florida Street
Baton Rouge, LA 70801

Ethyl Chemicals Group

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

777
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DIRECTIONS FOR USE J-12PT

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

GENERAL INFORMATION

M-B-R-2 fumigant contains methyl bromide with 2% chloropicrin added as warning agent against the hazard of over-exposure of personnel to methyl bromide. Chloropicrin must never be depended upon as a warning agent when a gas mask is worn. It is designed for application under a gasproof cover for treating soil and certain other materials in which plants may be grown for nonfood and nonfeed crop uses, including seed and plant beds, nurseries and permanent planting sites for tobacco lawns, and other ornamental and recreational turf areas, forest and shade trees, ornamental flowers, vines, and shrubs and other similar plants.

It may also be used for treatment of vegetable seed beds for production of plants that are later transplanted and grown to maturity in untreated soil or soil treated according to label directions for registered products.

The use of **M-B-R-2** is recommended for control of seeds of broadleaf and grass weeds and their roots, stolons and bulbs, as well as nematodes, insects in the soil at time of treatment including wireworms, June beetle larvae, and other grubs and certain soil-borne fungi which produce plant diseases. It is particularly useful for the eradication of patches of quackgrass, johnsongrass, nutgrass, garlic, wild onions and certain other noxious plants. Consult the Dosage Table which appears on this overwrap for more precise details on uses for **M-B-R-2** fumigant and read the entire overwrap before using the product.

While in the container, **M-B-R-2** fumigant is a liquid under pressure. It turns to a gas when released and must be confined under a gasproof cover of either plastic or coated fabric. Both the liquid and the gas are poisonous and may cause burns on contact. Observe all Precautionary Labeling and Use and Handling Precautions given on this overwrap and the product label.

APPLICATION EQUIPMENT: Open only with special equipment designed for this purpose. Three opening systems are described in the APPLICATION section: the Lance Opener, the Star Model 1.5 Opener, and the Simplex Tray Opener.

INSTRUCTIONS

SEED AND PLANT BEDS: Soil preparation: With the exception of light, sandy soils, **M-B-R-2** fumigant will normally be effective only as deep as the soil is properly prepared. Have soil in condition suitable for planting—moist, fine and loose, with no lumps or clods. Moisture content of weed seeds must be high for good control. Consequently dry soil should be thoroughly drenched and kept moist for at least 3 to 4 days before fumigating. For best results fumigate when soil temperature is above 60° F at the 4 inch depth. If soil temperature is between 50° F and 60° F, double the recommended exposure time. Do not fumigate if soil temperature is below 50° F.

DOSAGE: Determine dosage from the Dosage Table which appears on this overwrap. **M-B-R-2** will control most weed seeds, nematodes and insects present in the soil at time of treatment when used at recommended rates. Certain resistant species such as round-leaf mallow and hard coated seeds such as clover may require a somewhat higher dosage or an exposure time longer than the minimum indicated in the table.

APPLICATION: Materials required include a gasproof cover of polyethylene or other material impervious to **M-B-R-2**, cover supports, and an applicator system to dispense the fumigant. Start by digging a 4 to 6 inch deep trench or furrow around the border of the prepared soil area to be treated. Place plant cover supports at regular intervals on the prepared bed. Supports should be high enough to hold the cover above the soil surface and evaporation bags so fumigant vapors can diffuse freely under the cover.

LANCE OPENER APPLICATOR SYSTEM:

1. Attach lance opener loosely to the 1.5 lb/680 gram can. Do not puncture can.
2. Place two cans with openers attached into the plastic bag and seal bag. Lay the bag with cans inside on a 1 x 1 square foot piece of cardboard, wooden board or metal plate about 30 feet apart in the area to be treated. (Three evaporation bags containing two 1.5 lb cans each will treat a 900 sq ft bed)