

PESTMASTER

METHYL BROMIDE

®

MC

MC

FUMIGANT

NET WEIGHT: LBS.

ACTIVE INGREDIENT:

Methyl Bromide 100%

NOTE: Seller makes no warranty, express or implied, concerning the use of this product. Buyer assumes all risk of use or handling, whether or not in accordance with directions.

DANGER: Keep out of reach of children.

See antidote statement and other required warning statements on the side panel of label

Manufactured By

MICHIGAN CHEMICAL CORPORATION
CHICAGO, ILLINOIS

MADE IN U. S. A.

PRINTED IN U. S. A.

FOR GRAIN FUMIGATION

in Flat or Upright Bulk Grain

Storages, Mills, Warehouses, Box Cars, Vaults.

FUMIGATION PROCEDURES: Consult the bulletin "Pestmaster Fumigation Manual", furnished by the manufacturer.

Caution: Wear a full-face gas mask (black canister) when releasing gas in buildings. Thoroughly aerate buildings after fumigation.

Insects Controlled: All stored grain insects including granary weevil, rice weevil, lesser grain borer, cadelle, saw-toothed grain beetle, Angoumois grain moth.

Rodent Control: Apply 4 ounces per 1,000 cubic feet in well sealed buildings.

Rate of Application: For space fumigation of grain the usual rate is 1 to 3 pounds for each 1000 cubic feet of space for an exposure of 16 to 24 hours.

Usual Rates for Bulk Fumigation with Recirculation:

Shelled corn	2 lbs/1000 cu. ft.
Wheat, barley, rye, oats, rice	3 lbs/1000 cu. ft.
Grain sorghum (milo)	4 lbs/1000 cu. ft.

Use Precautions: Fumigation at grain moisture content above 14% may injure germination. Do not repeat fumigation where this is likely to result in bromide residues in excess of legal tolerances. Do not fumigate feed or food products other than those specified on this label unless it is first determined that such fumigation is in compliance with Food and Drug laws, U.S.D.A. and state laws and regulations. The following materials can develop undesirable odors when fumigated and should be removed from buildings: Rubber and patent leather articles, high-protein flour and cereals, furs, horsehair articles, iodized salt, synthetic detergents and any articles containing sulfur compounds. To avoid corrosion damage, extinguish all flame and turn off glowing wire heaters. Consult Michigan Chemical Corporation for more specific use information.

U.S.D.A. Reg. No. 481-41

DANGER

VAPOR EXTREMELY HAZARDOUS
HIGHLY VOLATILE • CAUSES BURNS

WARNING: Can be fatal if inhaled. Do not breathe vapor. Do not get in eyes, on skin or on clothing. Severe burns can be caused by contact. Keep away from heat. Keep container closed. Use only according to directions.

• • •

IN CASE OF CONTACT: Wash skin thoroughly with soap and water and flush eyes with water for at least 15 minutes. Get medical attention immediately in all cases. If liquid is spilled on shoes or clothing, remove them immediately and thoroughly aerate before reuse.



POISON



FIRST AID TREATMENT — ANTIDOTE

Remove patient to fresh air. Keep lying down and warm. Use artificial respiration if breathing has stopped. CALL A DOCTOR IMMEDIATELY. Use oxygen inhalator only at doctor's direction.

PESTMASTER

METHYL BROMIDE

T. M. REG.

WITH CHLOROPICRIN WARNING AGENT

ACTIVE INGREDIENTS:

Methyl Bromide	98%
Chloropicrin	2%

DANGER: Keep out of reach of children. See side panel for antidote and additional warning statements.



MANUFACTURED BY



MICHIGAN CHEMICAL CORPORATION
SAINT LOUIS, MICHIGAN

**Pestmaster Methyl Bromide
w/Chloropicrin Warning Agent
(can label)**

FUMIGATION PROCEDURE: Consult the bulletin "Pestmaster Methyl Bromide for Grain Fumigation", furnished by the Manufacturer, for information on methods, application equipment, safety equipment and precautions. This product controls rice weevil, granary weevil, lesser grain borer, cadelle, grain moths and similar stored grain insects, in all life stages.

For space fumigation of grain, usual dosage rate is 1 to 3 pounds per 1000 cu. ft. of space for 16 to 24 hours exposure. For bulk grain use the following rates with forced recirculation:

Wheat, barley, rye, oats, rice -----3 lbs/1000 cu. ft.
Shelled corn -----2 lbs/1000 cu. ft.
Grain sorghum (milo) -----4 lbs/1000 cu. ft.

Use Precautions Do not repeat fumigation if this is likely to result in bromide residues in excess of legal tolerances. Do not fumigate feed or food products other than specified on this label unless it is determined that such fumigation complies with Food and Drug laws, U.S.D.A., and state laws and regulations.

Remove rubber and patent leather articles, furs, other sulfur-containing articles, iodized salt, detergents - these can cause undesirable odors. Extinguish all flames and turn off glowing wire heaters, to avoid corrosion damage.

Store in a cool place, away from dwellings.

Seller makes no warranty, express or applied, concerning the use of this product. Buyer assumes all risk of use or handling, whether or not in accordance with the label.

Remove rubber and patent leather articles, furs, containing articles, iodized salt, detergents, and other undesirable odors. Extinguish all flames and heaters, to avoid corrosion damage.

Store in a cool place, away from heat.

Seller makes no warranty, express or implied, on this product. Buyer assumes all risk of use or not in accordance with directions.

USDA Reg. No. 481-74

OPEN ONLY WITH SPECIAL APPLICATOR
This package is covered by U.S. Patent No. 2,890,794

DANGER: Keep out of reach of children. See back panel for additional warning statements.



with chloropicrin warning agent
FOR GRAIN FUMIGATION in Bins, Tanks, Box Cars, Vaults, Warehouses

POISON ANTIDOTE: Remove patient to open air. Keep lying down and warm, head slightly lowered. Give artificial respiration if breathing has stopped. CALL A DOCTOR IMMEDIATELY Administer oxygen or caffeine stimulants only at doctor's direction.

ACTIVE INGREDIENTS:	
METHYL BROMIDE	98%
CHLOROPICRIN	2%

Made in U.S.A. by
MICHIGAN CHEMICAL CORPORATION, SAINT LOUIS, MICHIGAN

TO OPEN: Contents of this can are under pressure. Open only with special applicator. USE NO OTHER DEVICE. This equipment is available from your dealer or from the manufacturer.

DANGER EXTREMELY HAZARDOUS VAPORS
HIGHLY VOLATILE • CAUSES BURNS
Do not breathe vapor. Do not get in eyes, on skin or on clothing. In case of contact, immediately remove all contaminated clothing including shoes and bandaging. Otherwise severe blistering will result. Wash skin thoroughly with soap and water; flush eyes for at least 15 minutes. CALL A DOCTOR. Do not reuse clothing or shoes until free from all contamination. Keep container away from heat.

ACCEPTED
SEP 1965
481-74



For best results, the methyl bromide is left in the building for a 24 hr. exposure period. It is then removed by operating the fan for four to six hours to exhaust the methyl bromide to outside air, with doors, ventilators, and louvers open. The building should then be checked with a halide leak detector to make sure that there is no methyl bromide remaining. A gas mask should be worn and several locations, preferably low spots, checked. This is necessary before it is safe to enter the building for inspection or servicing. Exhaust fans should be operated four to six hours, or until a leak detector shows the absence of methyl bromide.

When properly carried out, the aeration procedure will present no health hazard. Care should be taken that the exhaust pipe is not located where it will constitute a hazard to nearby dwellings, offices, or workmen in the vicinity.

When methyl bromide is introduced from the pressurized cylinder into the main duct of the aeration system on the outside of the building it is ordinarily not necessary to wear a gas mask but it is well to have one handy for an emergency. If cylinders are to be opened in the storage building, use the following procedure. Two men wearing suitable gas masks should work together, starting in the back and working toward the predetermined exit. Do not run. Before opening cylinders be sure all openings except predetermined exit are sealed. After leaving building seal this exit.



A 400-pound cylinder of PESTMASTER* Methyl Bromide. Also available in 50 lb., 100 lb., and 150 lb. sizes.

Gas masks and canisters (black) should be those approved by the U.S. Bureau of Mines for methyl bromide. These gas masks and canisters may be obtained from your supplier of Pestmaster* Methyl Bromide, Mine Safety Appliances Co., Pittsburgh, Pa.; Mine Protection Equipment Company, South Haven, Michigan; or E. D. Bullard Company, San Francisco, California. Halide leak detectors, manufactured by Frigidaire Systems, General Motors Corp., Dayton, Ohio, and Otto Bernz Co., Rochester, New York, are very helpful to find pockets of gas or to determine when aeration has been completed.

Thermal conductivity instruments for direct determination of ounces of methyl bromide in each 1,000 cu. ft. without chemical analysis are available. All Pestmaster* Methyl Bromide cylinders are equipped with 1/2 in. male outlets. Cylinder discharge is generally accomplished through a 1/2 in. reducer to permit attachment of a 1/4 in. OD copper, saran or polyethylene tube long enough to extend back into the air duct past the outside wall of the building. Should any methyl bromide remain in the bottom of the duct it will then vaporize inside the building.

For customers who desire a warning agent, Pestmaster* Methyl Bromide can be obtained with chloropicrin added, at no extra cost. This chemical is tear gas with extremely good warning properties. When ordering please specify whether or not chloropicrin is desired.

Your supplier of Pestmaster* Methyl Bromide will be glad to furnish more technical information and discuss the economic advantages of methyl bromide.

MICHIGAN CHEMICAL CORPORATION

Saint Louis, Michigan

PESTMASTER

METHYL

BROMIDE

for

grain

fumigation



a product of

MICHIGAN CHEMICAL CORPORATION

Saint Louis, Michigan

Registered U.S. Patent Office

Methyl bromide has a combination of desirable properties, making it ~~versatile~~ versatile and generally useful fumigant for grain and food products. Until recently it was not widely used to treat large bodies of bulk grain because of the problem of getting uniform distribution. New techniques, discussed in this bulletin, now make it possible to fumigate bulk grain with methyl bromide. Important cost savings are effected because of the low dosage requirement, ease of application and over-all effectiveness. Under proper conditions of application it can be safely used as an efficient and effective fumigant to protect stored grain.

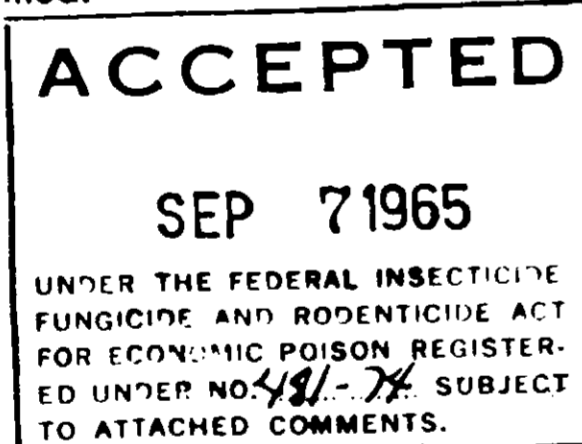
ADVANTAGES OF PESTMASTER* METHYL BROMIDE

Compared with other fumigants methyl bromide is effective at the lowest cost a bushel.

Adults • Larvae • Pupae • Eggs

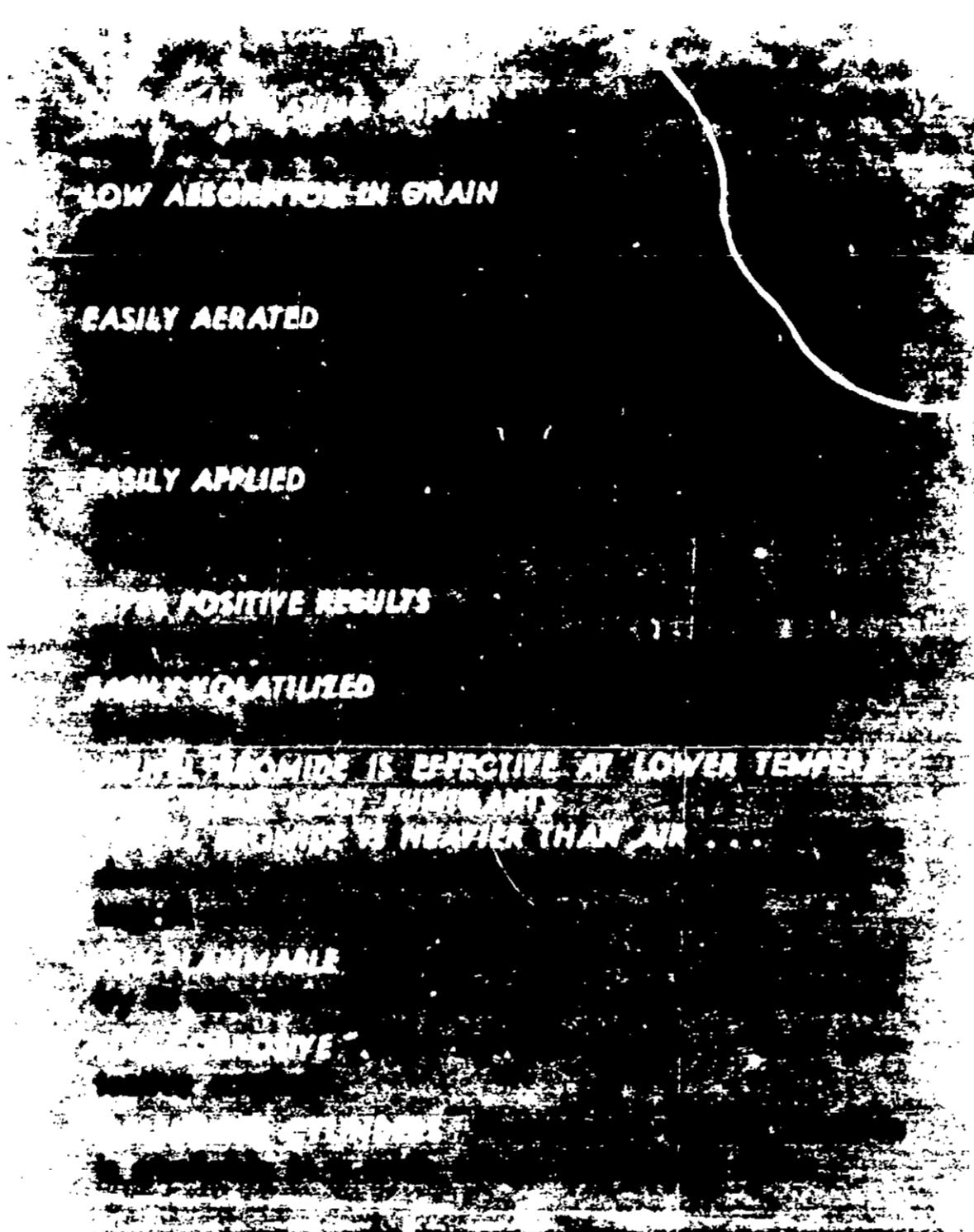
All grain insects are killed.

Rats • Mice



The term "grain" as used in this bulletin refers to wheat, corn, oats, barley, rye, grain sorghum (milo) or rice. Each of these grains can be legally fumigated with methyl bromide, since an inorganic bromide residue tolerance of 50 p.p.m. (as Br) has been established under Public Law 518, the Miller Amendment. Grains other than the above should not be fumigated with methyl bromide, or with any other fumigant unless it has been ascertained that a legal tolerance exists, or unless there is an exemption from the tolerance requirement.

The directions in this folder are given in good faith and are based on currently available information and extensive experience. However this information is in no way warranted or guaranteed. Michigan Chemical Corporation makes no warranty, express or implied, concerning the use of methyl bromide. The buyer assumes all risk of use or handling, whether in accordance with directions or not.



HOW TO APPLY PESTMASTER* METHYL BROMIDE

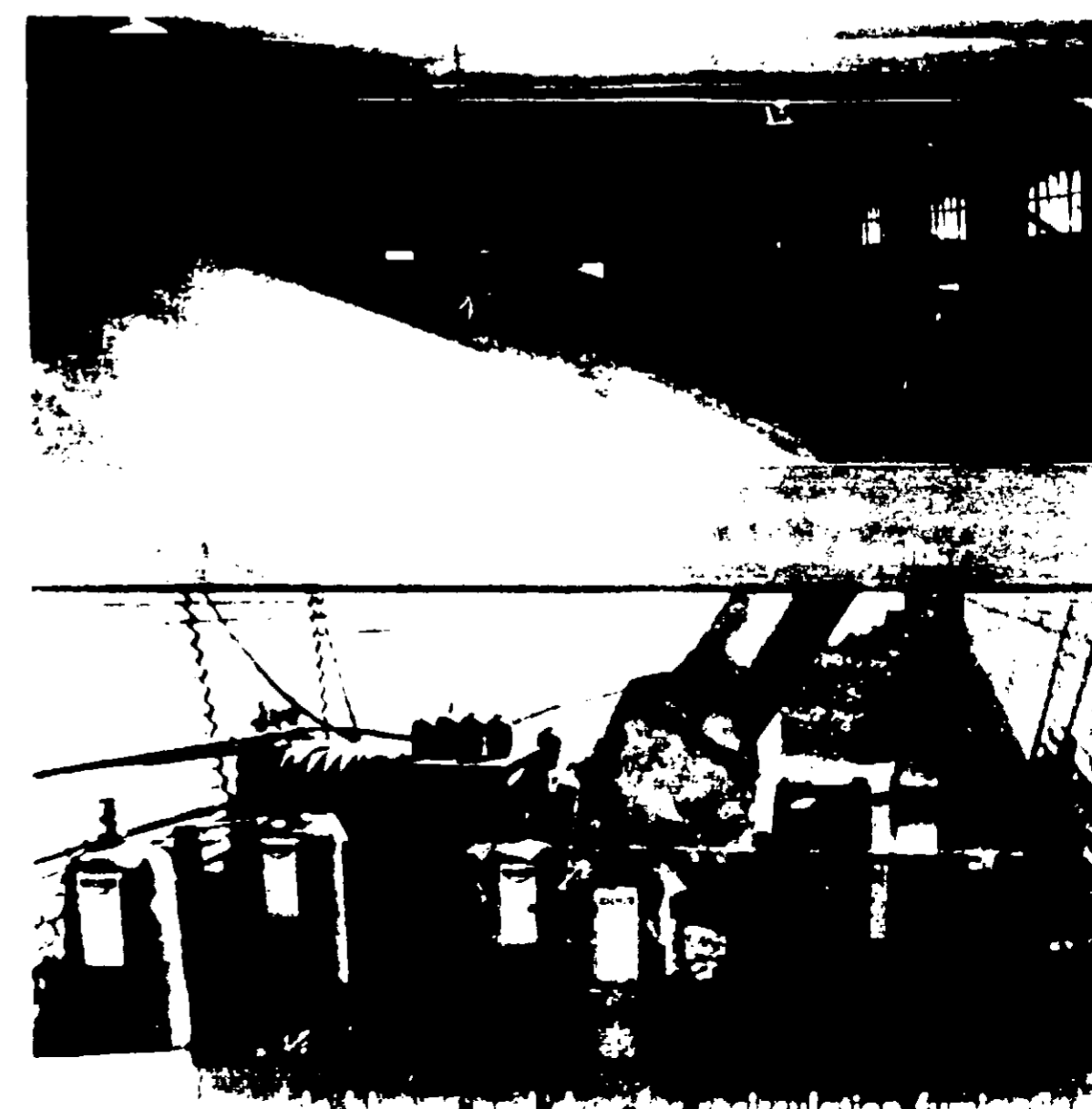
All types of bulk storages can be fumigated so long as they can be effectively sealed. The blower system customarily used for cooling and aerating the grain can be adapted to fumigation. It should be of sufficient size and should be so designed that all of the methyl bromide may be applied at one time and in one operation. This method distributes lethal concentrations uniformly throughout the grain.

Efficient distribution can be achieved by introducing the fumigant at either the top or bottom of the body of grain. Usually in flat storages or silos, Pestmaster* Methyl Bromide can be applied by introduction above the grain since insect infestation is likely to be greatest at the surface—and then pulled downward through the body of grain. Secondary ducts can be used to get efficient distribution.

The methyl bromide air-mixture can be forced throughout the grain by either the "recirculation" or "forced distribution" systems. Recirculation is accomplished by connecting a duct to the open side of the fan and bringing it back into the building over the top of the grain. It is not necessary to return this duct back into the center of the building. With recirculation the fan can be operated long enough to insure proper distribution. "Forced distribution" requires careful operation and timing since no return duct is used. The air can be either pulled down or pushed up. As soon as the halide detector or the thermal conductivity instrument indicate methyl bromide penetration of the grain, the fan is shut down. Since this method provides only a single movement of air through the grain, there is a greater possibility of untreated pockets than when recirculation is used. With either method of fumigation, start fans soon enough to establish air circulation through the grain before the methyl bromide is released.

Methyl bromide fumigation, other than the installation costs of the aeration system, does not require additional investment in expensive equipment.

Information on specific questions on grain fumigation (such as the most suitable type of aeration, fumigation installation, duct, motor, blower size and the best way to introduce the gas) can be obtained from your supplier of Pestmaster* Methyl Bromide.



Methyl bromide has a combination of desirable properties, making it ~~versatile~~ versatile and generally useful fumigant for grain and food products. Until recently it was not widely used to treat large bodies of bulk grain because of the problem of getting uniform distribution. New techniques, discussed in this bulletin, now make it possible to fumigate bulk grain with methyl bromide. Important cost savings are effected because of the low dosage requirement, ease of application and over-all effectiveness. Under proper conditions of application it can be safely used as an efficient and effective fumigant to protect stored grain.

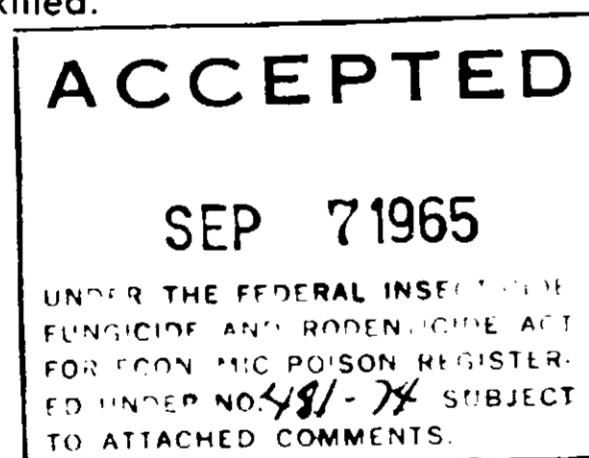
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Compared with other fumigants methyl bromide is effective at the lowest cost a bushel.

Adults • Larvae • Pupae • Eggs

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Rats • Mice



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Works to corners and in and around foreign material.

Moves with the air and quickly penetrates all air spaces throughout the grain.

Methyl bromide can be quickly and easily vented from the grain. Under dry conditions from low to air flows of low velocities are sufficient.

From pressurized cylinder direct to air duct. No additional distributing system or equipment is required.

Once insects are knocked down they do not revive.

The low boiling point of methyl bromide, 39°F, provides quick gasification.

It works downward penetrating into cracks, corners and openings in which insects or rodents can hide.

Insurance rates are not affected by its use. No fire or explosion hazards are present.

Does not rust metals or their protective coatings.

Pestmaster* Methyl Bromide is available in a wide range of cylinder sizes.

HOW TO APPLY PESTMASTER* METHYL BROMIDE

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