

JUL 10 1992

Soil Chemicals Corporation
 P.O. Box 782
 Hollister, CA 95024

Attn: Tom Duafala, Ph.D.

Subject: Revised Labeling for Aeration and Reentry
 Methyl Bromide 99.75%
 EPA Registration No. 8536-17

Your labeling package revised in accordance with your company's May 18, 1992 letter of commitment has been reviewed and the following comments apply.

Product Labeling

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. A stamped copy is enclosed for your records. Two copies of the finished labeling must be submitted to EPA before you distribute or sell the product. All products distributed or sold after August 1, 1992 must contain the revisions detailed in this letter.

1. In the middle column of the draft label, under the heading "General Precautions":

- Expand the first sentence under the "Aeration and Reentry" statement to read: "... below 5ppm (20mg/cu.m) and below 3ppm (12 mg/cu.m) for residential or commercial structures."

- Add an item #3: "For residential and commercial structural fumigations, specific USEPA instructions as detailed elsewhere in this product label and supplemental manual must be strictly followed."

2. Revise the heading in the far right column to read: "AERATION AND REENTRY FOR RESIDENTIAL OR COMMERCIAL STRUCTURES".

CONCURRENCES							
SYMBOL	4750W						
Q/R NAME	J. Duafala						
DATE	JUL 10 1992						

3. All products distributed or sold by the registrant after August 1, 1992, and distributed or sold by any other person after September 1, 1992 must bear the approved labeling revised in accordance with EPA's comments. Distribution or sale of methyl bromide pesticide products for commercial or residential structural fumigation after these dates without the revised labeling will be a violation of FIFRA §12(a)(1)(E).

Additionally, the following conditions, as set forth in your May 18, 1992 letter of commitment, have been added to the above referenced registration:

1. Soil Chemicals Corporation will notify all its customers by certified mail that distribution or sale methyl bromide pesticide products bearing EPA Registration No. 8536-17, for residential or commercial structural fumigation will be prohibited after September 1, 1992 unless the product's labeling includes the July 1992 revised use directions. Such notification will include a copy of the approved revised labeling. Soil Chemicals Corporation will keep a copy of each notification and return receipt for two (2) years.

2. Soil Chemicals Corporation will offer to relabel methyl bromide pesticide products for its distributors, and if the distributors accept the offer, Soil Chemicals Corporation will relabel such products.

3. All products bearing EPA Registration No. 8536-17 distributed or sold by registrant after August 1, 1992 will bear the July 1992 revisions concerning aeration and reentry, and the fact sheet for commercial and residential structural fumigation.

If you should have any question concerning this letter, you may call Robert Travaglini on (703) 305-6909.

Sincerely,

R. G. Douglas

Ruth G. Douglas
Product Manager (32)
Antimicrobial Program Branch
Registration Division (H7504C)

PH 32 8536-17

30 of 17

**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.

METHYL BROMIDE 99.75%

FOR USE ONLY BY CERTIFIED APPLICATORS
as EPA Label Says

JUL 10 1982

ACTIVE INGREDIENTS:	Methyl Bromide	99.75%
INERT INGREDIENTS:	Chloropicrin, Odorizing Agent	0.25%
TOTAL		100.00%

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KEEP OUT OF REACH OF CHILDREN

DANGER



PELIGRO

POISON

PRECAUCION AL USARIO: Si usted no lee ingles, no use este producto hasta que lo entienda lo haya sido explicado en castellano.

IN ALL CASES OF OVEREXPOSURE, GET MEDICAL ATTENTION IMMEDIATELY TAKE PERSON TO A DOCTOR OR TO AN 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, give artificial respiration. Give oxygen if needed. Do not give anything by mouth to any unconscious person. Seek medical attention.

IF ON SKIN: Immediately remove contaminated clothing, shoes, and other items covering the 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.

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 overexposures 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.

See Side Panel For Additional Precautionary Statements.



Sol
Chemicals
Corporation
PRODUCTS

P.O. BOX 782 - HOLLISTER, CA 95024

E.P.A. EST. 8536-CA-1, 2, 3, 4; FL-1

E.P.A. REG. NO. 8536-17

NET CONTENTS LBS.

**PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS
AND DOMESTIC ANIMALS:
D A N G E R
EXTREMELY HAZARDOUS LIQUID AND
VAPOR UNDER PRESSURE.
INHALATION MAY BE FATAL OR CAUSE
SERIOUS ACUTE ILLNESS OR DELAYED
HEARING OR NERVOUS SYSTEM INJURY.
DO NOT BREATHE VAPORS.
LIQUID OR EXCESSIVE 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.**

**OBSERVE THE FOLLOWING
PRECAUTIONS:**

GENERAL PRECAUTIONS

1. Do not get in eyes, on skin, or on clothing.
2. Do not spill or discharge contents outside of areas confined for treatment.
3. Comply with all local regulations and ordinances.
4. If it is advisable to supply your physician with information on this product, literature is available from your dealer or distributor.
5. Seek medical assistance or care in case of illness after exposure to this product or conditions which could accidentally occur. For first aid information, refer to the label. See Note to Users.

RESPIRATORY PROTECTION:

If the concentration of methyl bromide in the working area, as measured by a direct-reading detector device (such as a Draeger gas detector) does not exceed 5 ppm (20 mg/cu.m), no respiratory protection is required. If this concentration is exceeded at any time, all persons in the fumigation area must wear protective clothing and a NIOSH/MSHA approved self-contained breathing apparatus (SCBA) or combination air-supplied/SCBA respirator (such as a U.S. Divers Survival or comparable device).

CLOTHING PRECAUTIONS:

1. Wear loose clothing and socks that are cleaned after each wearing. Do not wear jewelry, gloves, or tight clothing when handling methyl bromide. Methyl bromide is heavier than air and may be trapped in the 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.
2. Removing equipment immediately remove clothing, shoes, and socks. Do not reuse contaminated clothing or shoes until thoroughly cleaned and aired. Drenched clothing cannot be adequately decontaminated.
3. Do not wear gloves of any type or rubber protective clothing, or rubber boots.
4. If liquid fumigant splashes or spills on clothing, remove them or they will be an intolerable source of irritation.

WARNING SIGNS: (Structural, Transportation, Space Fumigation)

1. The applicator must placard or post all entrances to the fumigated area with signs bearing in English and Spanish:
 - (a) The signal word DANGER/PELIGRO and the skull and crossbones symbol.
 - (b) The statement, "Area under fumigation. DO NOT ENTER/NO ENTRE."
 - (c) The date of fumigation.
 - (d) Name of fumigant used.
 - (e) Name, address, and telephone number of the applicator.
2. Do not remove a placard until the treated space is completely aeration. To determine whether aeration is complete, each fumigated site must be monitored and shown to contain less than 5 ppm methyl bromide. If less than 5 ppm methyl bromide is detected, the placard may be removed.
3. Placards must be placarded with the specified warning symbols and signs are available from your dealer or distributor.

SPILL OR LEAK PROCEDURE:

1. Evacuate the immediate area of the spill or leak. Use SCBA or other clean air-supplied/SCBA respirator for entry into the affected area to correct problem. Move leaking or damaged cylinders or containers outdoors or to an isolated location, observing strict safety procedures when opening if possible. Allow spill to evaporate. Do not permit entry into spill area by unprotected persons until the concentration of methyl bromide is determined to be less than 5 ppm (20 mg/cu.m).
2. Contaminated soil, water, and other cleanup debris is a toxic hazardous waste. Report spill to the National Response Center (800-424-6821) if reportable quantity of 1000 lbs. is exceeded.

PRECAUTIONS FOR STRUCTURAL, TRANSPORTATION, OR SPACE FUMIGATION USE

GENERAL PRECAUTIONS:

- 1. Do not allow children, and unauthorized people away from area until treatment until area is certified free of methyl bromide in the Aeration Statement.
- 2. When used for fumigation of enclosed spaces (houses and other structures, warehouses, vaults, chambers, greenhouses, trucks, vans, boats, ships, and other transport vehicles, and tarpaulin-covered areas), two persons trained in the use of this product must be present during introduction of the fumigant, introduction 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).
- 3. Do not fumigate with this product when the temperature is below 40 degrees F.
- 4. Do not fumigate with this product when the temperature is below 40 degrees F.

CAUTION FOR REENTRY:

After fumigation, treated areas must be aeration until the level of methyl bromide is below 5 ppm (20 ug/m³).
 Do not allow reentry into the treated area by any person before the area has been properly aeration and a respiratory protection device (SCBA or self-contained air-supplied SCBA) is worn.

ENVIRONMENTAL HAZARD

This pesticide is toxic to wildlife. Do not discharge effluent containing this pesticide into streams, ponds, estuaries, rivers, or other bodies of water. This product is specifically formulated for use in enclosed spaces. Do not discharge effluent into the environment. Do not use sewer systems without proper treatment. For more information, contact the Regional Office of the EPA.

Do not use this product in the area immediately surrounding the fumigation site. A halide detector during exposure and aeration periods to indicate that dangerous levels of the fumigant are not present. See Aeration Statement for Halide Detector use. The high volatility of the fumigant permits it to be vented from the area being fumigated and to dissipate rapidly with no hazard to surrounding areas with correct monitoring.

CHEMICAL HAZARD

This pesticide is practically non-toxic. There is no longer any known irritation in use concentrations. However, it can change the chemical to produce some corrosive damage to steel in the case of prolonged contact. Pilot lights and glowing wire heaters are not affected.

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 an undesirable odor when encountered in structural fumigation and should be removed from the space being fumigated:

1. Feedstuffs: (a) iodized salt; (b) full-fat soy flour; (c) any kinds of materials that contain reactive sulfur compounds such as some soap powders, some seeding mixes and some salt blends used for cattle licks.
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 vulcanized rubber.
3. Raw linoleum and oilskin (especially feather pillows).
4. Leather goods, particularly white hid or any other leather goods treated with sulfur preservatives.
5. Synthetic fabrics: caution should be used in the fumigation of any synthetic fabrics and some adverse effect has been noted on the following: (a) rayon, (b) acetate, (c) rayon blends, (d) acetate blends, (e) acetate blends, (f) acetate blends, (g) acetate blends, (h) acetate blends, (i) acetate blends, (j) acetate blends, (k) acetate blends, (l) acetate blends, (m) acetate blends, (n) acetate blends, (o) acetate blends, (p) acetate blends, (q) acetate blends, (r) acetate blends, (s) acetate blends, (t) acetate blends, (u) acetate blends, (v) acetate blends, (w) acetate blends, (x) acetate blends, (y) acetate blends, (z) acetate blends.
6. Various types of these rayon processed or manufactured by a process in which carbon disulfide is used.
7. Paper: (a) floor-polishing papers; (b) certain writing papers treated by sulfur preservatives; (c) carbonless paper or blue-prints.
8. Photographic chemicals as used in photo processing darkness does not include camera film.
9. Cinder blocks or sized concrete which occasionally picks up odors.
10. Any materials that may contain reactive sulfur compounds. THESE PRODUCTS MAY DIMINISH EFFECTIVENESS OF THE FUMIGANT: Charcoal materials (charcoal absorbs the methyl bromide reducing the effective concentration and contaminating the charcoal).
11. 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.

DIRECTIONS FOR USE

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

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. Persons moving or handling containers should wear protective clothing. Open containers only in a well-ventilated area wearing protective clothing and respiratory protection if necessary. Store cylinders upright, secured to a rack or prevent tipping. Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding.

STORAGE AND HANDLING, CONTINUED:

Do not use this product unless you are a trained person to unload cylinders. The safety cap should be removed and the valve cap removed before use. The safety cap should be removed and the valve cap removed before use. The safety cap should be removed and the valve cap removed before use.

RETURN OF CYLINDERS:

Cylinders are the property of the manufacturer. They should be returned to the manufacturer or to a qualified person to be refilled. Do not use this product unless you are a trained person to unload cylinders.

SHIPPING:

This product is classified as a compressed gas by the U.S. Department of Transportation. It is a non-flammable, non-toxic, non-corrosive gas. It is not a liquid under normal conditions. It is not a solid under normal conditions.

DISPOSAL:

Do not discharge this product into the atmosphere. It is a compressed gas and should be disposed of in a safe manner. Do not use this product unless you are a trained person to unload cylinders.

GENERAL INSTRUCTIONS

THIS FUMIGANT IS A HIGHLY TOXIC CHEMICAL AND SHOULD BE USED ONLY BY INDIVIDUALS TRAINED IN THE PROPER USE BEFORE USING. READ AND FOLLOW ALL LABEL INSTRUCTIONS AND DIRECTIONS INCLUDING THE ATTACHED SUPPLEMENT. ALL PERSONS EXPOSED TO THIS FUMIGANT MUST BE IMMEDIATELY REMOVED FROM THE AREA AND ADVISED OF THE HAZARD AND ADVISED OF THE USE OF APPROPRIATE RESPIRATOR EQUIPMENT AND DETECTION DEVICES, EMERGENCY PROCEDURES, AND PROPER USE OF THE FUMIGANT.

STRUCTURAL FUMIGATION

AREAS TO BE FUMIGATED:

Buildings, storage rooms and storage buildings.

INSECTS AND PESTS CONTROLLED:

Lycus or powder post beetle, old house borer, death watch beetle, roach, earwig, spiders, ants, millipedes, carpet beetles, clothes moths, silverfish, booklice, bedbugs, fleas, mice and rats, drywood termites.

PREPARATION FOR STRUCTURAL FUMIGATION:

Remove from the structure to be fumigated all persons, domestic animals, pets, fish, and growing plants. Remove from the premises or place in polyethylene bags (thickness no less than 4 mils.) all foods and medications. Polyethylene bags must be sealed with caulk tape or clamps. Open all doors and screens to fresh air. Open all windows and doors. For fabric pest control, open storage chests, drawers, and closets. For necessary or vital structures seal or tape all cracks and other air leaks, around doors, windows, vents, wood structures and others that cannot be sealed effectively may be enveloped in a gas cover tarpaulin or polyethylene plastic sheet at least 4 mils. thick. Seal all edges of the envelope with caulk seal or sand ratchet. Seal soil with water and fuel from the edge of the envelope as necessary to protect nearby plants.

RATES OF APPLICATION:

For general fumigation under ideal conditions at temperatures of 70° F. and above use 1 to 3 pounds of Methyl Bromide 99.7% per 1000 cu. ft. for 16 to 24 hours exposure time. Under adverse conditions, increase dosage to 3 1/2 to 3 3/4 pounds per 1000 cu. ft.

FUMIGATION:

Release Methyl Bromide 99.7% from outside the structure through a heat exchanger to convert from liquid to gaseous state, or introduce through a suitable leak proof tube (such as polyethylene) attached to an evaporating pan to prevent splashing over interior. Operate an electric fan during introduction and for a minimum of 30 minutes thereafter to accelerate distribution of the gas. For an average structure, the entire amount may be released in one place, but for a large or complex structure, release it at two or more locations, as chosen so to ensure even gas distribution.

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WARRANTY

THE MANUFACTURER WARRANTS THAT THE PRODUCT CONFORMS TO ITS SPECIFIC DESCRIPTION AND TO THE PURPOSES STATED ON THE LABEL WHEN USED IN ACCORDANCE WITH DIRECTIONS UNDER NORMAL CONDITIONS OF USE. BUT WITHOUT THIS WARRANTY OR ANY OTHER WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXPRESS OR IMPLIED, EXTENDED TO THE USE OF THIS PRODUCT CONTRARY TO LABEL INSTRUCTIONS, OR UNDER UNUSUAL CONDITIONS OR UNDER CONDITIONS NOT FOR WHICH IT IS DESIGNED OR INTENDED, AND THEREBY DISCLAIMS THE RISK OF SUCH USE.

APPENDIX A - HISTORY:

At the end of the 12-hour period, if the level of methyl bromide in the structure is less than 3 ppm, the structure may be occupied. If the level is 3 ppm or greater, the structure must be aerated using a gas detector with a minimum detection limit of 3 ppm for methyl bromide residues.

After natural ventilation is completed, the level of methyl bromide must be measured using a gas detector with a minimum detection limit of 3 ppm for methyl bromide residues. If the level is 3 ppm or greater, the structure must be aerated using a gas detector with a minimum detection limit of 3 ppm for methyl bromide residues.

1. For structures without basements, in addition to the requirements of paragraphs 1, 2, and 3 and 4, the windows, vents, and interior doors of the structure must be open, and (A) After aeration is completed, the level of methyl bromide in the structure must be measured using a gas detector with a minimum detection limit of 3 ppm for methyl bromide residues. A measurement must be taken from an interior electrical outlet by inserting the detection device in the ground receptacle, or from other enclosed space within the wall on an interior wall. In the absence of an interior wall, a measurement must be taken of the ambient air in the structure; and (B) (i) The level of methyl bromide is less than 3 ppm or greater, aeration must continue for an additional 12 hours. At the end of the 12-hour period, the level of methyl bromide must be measured from the area previously sampled. These procedures must be repeated until the level of methyl bromide is below 3 ppm.

2. For structures with basements, in addition to the requirements of paragraphs 1, 2, and 3 and 4, the windows, vents, and interior doors of the basement must be open, and (A) After aeration is completed, the level of methyl bromide in the basement must be measured using a gas detector with a minimum detection limit of 3 ppm for methyl bromide residues. A measurement must be taken from an interior electrical outlet by inserting the detection device in the ground receptacle, or from other enclosed space within the wall on an interior wall. In the absence of an interior wall, a measurement must be taken of the ambient air in the basement; and (B) (i) The level of methyl bromide is less than 3 ppm or greater, aeration must continue for an additional 12 hours for natural ventilation or an additional 12 hours for mechanical aeration. At the end of the additional ventilation period, the level of methyl bromide must be measured from the area in the basement previously sampled. These procedures must be repeated until the level of methyl bromide is below 3 ppm.

3. For structures with basements, in addition to the requirements of paragraphs 1, 2, and 3 and 4, the windows, vents, and interior doors of the basement must be open, and (A) After aeration is completed, the level of methyl bromide in the basement must be measured using a gas detector with a minimum detection limit of 3 ppm for methyl bromide residues. A measurement must be taken from an interior electrical outlet by inserting the detection device in the ground receptacle, or from other enclosed space within the wall on an interior wall. In the absence of an interior wall, a measurement must be taken of the ambient air in the basement; and (B) (i) The level of methyl bromide is less than 3 ppm or greater, aeration must continue for an additional 12 hours for natural ventilation or an additional 12 hours for mechanical aeration. At the end of the additional ventilation period, the level of methyl bromide must be measured from the area in the basement previously sampled. These procedures must be repeated until the level of methyl bromide is below 3 ppm.

NOTE: GAS DETECTORS WITH GAS-TIGHT DETECTOR (Range Pump and Detector) are available from your dealer or distributor.

STRUCTURAL FUMIGATION FACT SHEET (See Supplemental Manual 990-1 For Example of Fact Sheet)

- A. The applicator must obtain a Structural Fumigation fact sheet which has been signed by, and provided to, the following persons: (1) an adult occupant of a single family dwelling prior to the parties entering into a fumigation agreement; (2) the owner, manager, or designated agent of the building for multiple-family dwellings, provided he or she acknowledges in writing to the applicator that a copy of the Structural Fumigation fact sheet has been provided to an adult occupant of each unit prior to the parties entering into a fumigation agreement; (3) An adult occupant of each unit in a multiple family dwelling prior to the parties entering into a fumigation agreement; or (4) the owner, manager, or designated agent for all structures or businesses other than family dwellings.
- B. The Structural Fumigation fact sheet shall state: The purpose of this hand-out is to inform the consumer of possible health hazards associated with the use of the structural fumigant, methyl bromide. To ensure you have been informed, you must sign this fact sheet. You are advised to obtain the signature of the person or persons in charge of the structure to be fumigated. The fact sheet is available in Spanish. A copy of this fact sheet is kept.

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Supplemental Manual

MB-1

ACCEPTED
with COMMENTS
in EPA Letter Book

JUL 20 1982

Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.

8536-17

METHYL BROMIDE

SAFETY

INFORMATION

6/92

PHYSICAL PROPERTIES

Methyl Bromide at ambient temperature is a colorless and odorless gas. It is a water white liquid below its boiling point. Commercially, Methyl Bromide is handled in liquified form under pressure.

PROPERTY	VALUE
Molecular Weight	94.94
Pounds per gallon, Liquid	14.4 @ 0°C
Specific Gravity, Liquid	1.732 @ 32°F/0°C (H ₂ O = 1)
Percent Volatile	100% (by volume)
Boiling Point	38.4°F/3°C
Critical Temperature	194.00 °C
Refractive Index, n.	1.4432 @ -20°C
Vapor Pressure	1400 mmHg @ 68°F/20°C
Viscosity, cP.	0.397 @ 0°C
Flash Point	None
Flammable Limits (At S.T.P.).	Le1 10%, Ue1 15% with high energy ignition source
Freezing Point	-94.1 °C
Autoignition Temperature	537 °C
Odor	None
Solubility in Water	1.34 gms/100 ml @ 77°F/25°C

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HANDLING PRECAUTIONS TO AVOID SKIN CONTACT WITH METHYL BROMIDE

If carelessly handled, methyl bromide may be spilled on the skin surface. Since methyl bromide has a very low boiling point, very rapid evaporation takes place and within a few seconds the methyl bromide will entirely disappear from the surface of exposed skin. From such casual contacts, little or no difficulty need be anticipated. However if methyl bromide is spilled on clothing, gloves, or other materials covering the skin, such coverings may keep the methyl bromide in close and continuous contact with the skin. Since there is no particular sensation produced by such contact, methyl bromide may be maintained in contact with the skin for extended periods of time without an awareness that this has occurred.

Where methyl bromide has remained in contact with the skin for some time, a blister commonly forms which is not unlike the blisters resulting from thermal burns or severe chilling. Where blister formation has resulted from contact with methyl bromide, experience has shown that these seem to respond best to treatment when left intact. The blistered area is covered with a sterile petrolatum dressing which should be changed as required.

No one should be permitted to handle methyl bromide while wearing gloves, bandages, or occlusive dressing. Finger rings should be removed before handling the liquid product. Since methyl bromide will penetrate ordinary rubber gloves, these also should not be used. Where methyl bromide has been spilled on the clothing, such clothing should be removed immediately and thoroughly cleaned and aerated before being re-worn.

The results of brief skin contact by methyl bromide are mild, very simply treated, and accompanied by no serious after effects.

FOOD COMMODITIES

Methyl bromide has been used successfully for many years for the fumigations of a wide variety of commodities. The tolerances of various commodities for methyl bromide, however, vary considerably. Therefore, unless the tolerance of a given commodity for methyl bromide is known, consult Federal or State Experiment Station authorities or your dealer before fumigation is performed.

Precautions for the use of methyl bromide for fumigation of processed food and feedstuffs:

Overdosing and/or overexposure of any food or feedstuff commodity should be avoided. When the prior history is not known, or in those instances where a repeated fumigation is necessary, the commodity

should be analyzed for bromide residues before fumigation to make certain the proposed treatment will not result in residues that will exceed the tolerances established by the E.P.A. Special care must be exercised to determine whether methyl bromide fumigation of edible commodities will not result in above-tolerance bromide residues.

DETECTION EQUIPMENT

Detection equipment is a valuable aide to the fumigator. It can be used to help determine the success of a fumigation as well as protect the fumigator from over-exposure. There are several types of detection equipment available. Of the equipment described here, only the detector tubes can be used to clear an area for re-entry.

THERMAL CONDUCTIVITY GAS DETECTORS

This instrumentation is excellent for periodic determination of interior gas concentrations from outside the building. They are not, however, sensitive enough to determine the health hazards presented by low concentrations of methyl bromide. For more complete information, consult the U.S.D.A., the instrument manufacturers, or your Pesticide dealer. Units are available from Gow-Mac Instrument Company, 100 Kings Road, Madison, New Jersey 07940, and the Robert K. Hassler Company, Box 177, Altadena, California 91001.

THE HALIDE GAS DETECTOR

The Halide Gas Detector, which operates with a gas flame, is the easiest and most useful means of determining the presence or absence of harmful concentrations of methyl bromide gas. The detector consists of a torch which heats a copper plate, and an air tube through which the air to be tested is passed over the hot copper plate. If air contains methyl bromide, a green or blue flame will be seen in the torch, depending on the concentration.

If used properly, it will help to eliminate some of the practical hazards to the fumigator, and detect excessive leaks in a building. Halide detectors are available from refrigeration supply houses and some hardware stores.

Please note that the Halide Gas Detector operates with an open flame and, therefore, can be a hazard where dust or other flammable materials are present. However, this type of detector can be used to determine whether areas in or around a mill are free from hazardous concentrations of the gas by simply drawing the air and gas from the building through 1/4" (.635cm) plastic or copper tubing to suitable outside areas where the use of this instrument is safe. For instance, areas in and around the top of a building can be checked from atop the roof, or gas from areas around the bottom of the building can be checked on the ground out-of-doors.

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DETECTOR TUBES

This method uses a small hand held pump and methyl bromide detector tubes. Methyl bromide is drawn through 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 intensity of 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. Gastex pump, part number F-2417534, detector tube #136.
2. Draeger pump, part number CH 304, detector tube #67-28211.
3. Matheson-Kitagawa pump, part number 8014K, detector tube #157Sb.

CONDITIONS OF EXPOSURE TO METHYL BROMIDE

Methyl bromide should be handled and applied only by individuals who are thoroughly trained in its proper use. The use of concentrations which vary from those recommended can result in injury to the user and/or damage to the commodities being fumigated.

Exposure of individuals to hazardous concentrations of methyl bromide can be avoided when using proper fumigation procedures. Under accidental conditions, however, such exposure may occur. Following are possible symptoms of methyl bromide exposure:

- Nausea and vomiting
- Dizziness or headache
- Profound weakness
- Slurred speech
- Blurring vision
- Staggering gait
- Difficult breathing
- Convulsions

At the first sign of any of the above symptoms, immediately get out of fumigation area and into the fresh air. It is advisable for the entire crew of men on a fumigation job, working under the same conditions, to stop immediately if one of their members becomes sick. This is advise based on the possibility that if one man is being over-exposed, they all are.

Take the affected operator to a physician, or call a physician immediately. Under no conditions should this operator re-enter a methyl bromide atmosphere until he has received the approval of a physician. Since there is a possibility that the other members of the crew have also been unnecessarily exposed to the gas, they too should refrain from re-entering the building. Another experienced crew should be called to complete the fumigation.

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SUGGESTIONS FOR ATTENDING PHYSICIAN

Overexposure to methyl bromide may produce serious effects on the central nervous system and it will also cause lung irritation. The resulting symptoms will be proportionate to the concentration of the material and the duration of the exposure.

1. Nausea and vomiting may require an antiemetic and it may be necessary to give it parenterally if vomiting is severe.
2. Cardiac embarrassment may result in hypotension and it may be necessary to use a vasopressor.
3. Respiratory embarrassment should be treated with oxygen and it may be necessary to use oxygen under pressure. Ethyl alcohol vapor added to the oxygen may be considered if there is pulmonary edema, and the use of bronchodilators may be necessary if there is broncho-constriction.
4. If respiration fails, artificial respiration should be immediately instituted, preferably by mouth-to-mouth method.
5. Quick acting barbiturates should be used to control excitement or convulsions.
6. Patient should be hospitalized for at least 48 hours and observed for late respiratory and central nervous system effects.

There is some evidence that severe pneumonia may react dramatically to the employment of corticosteroid medication. Experience to date seems to indicate that if the individual survives the more serious effects of acute exposure, his recovery in all probability will be complete but may require a considerable period of time, depending on the severity of the exposure. In case of chronic intoxication resulting from prolonged or repeated exposure, where lung involvement is not a factor, the primary effect of methyl bromide is on the nervous system.

Recovery from such effects can be expected to be slow but, in all probability, will be complete. Thus, the importance of early diagnosis and the cessation of exposure is emphasized.

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STRUCTURAL FUMIGATION FACT SHEET

A. The applicator must obtain a structural fumigation fact sheet which has been signed by, and provided to, the following persons: (1) an adult occupant of a single family dwelling prior to the parties entering into a fumigation agreement, (2) (a) The owner, manager, or designated agent of the building for multiple-family dwellings, provided he or she acknowledges in writing to the applicator that a copy of the Structural Fumigant Fact Sheet has been provided to an adult occupant of each unit prior to the parties entering into a fumigation agreement; or (b) An adult occupant of each unit in a multiple family dwelling prior to the parties entering into a fumigation agreement, or (3) the owner, manager, or designated agent for all structures or businesses other than family dwellings,

B. The Structural Fumigation Fact Sheet shall state: The purpose of this handout is to inform the consumer of possible health hazards associated with the use of the structural fumigant methyl bromide. To make sure you have been given an opportunity to read this, applicators are required to obtain the signature of the owners and occupants of property to be fumigated with methyl bromide. You will also be given a copy of this fact sheet to keep.

STRUCTURAL FUMIGANTS: METHYL BROMIDE

ATTENTION

READ THIS FACT SHEET COMPLETELY BEFORE SIGNING

Fumigation involves the introduction of poisonous gases into every part of the structure, including inside the walls. Because overexposure to these gases can be harmful to people, your building will be ventilated before you will be allowed to return.

This fact sheet provides basic information about the structural fumigant, methyl bromide, as well as information about why and how buildings are fumigated, methyl bromide health risks, how to know if you are exposed, ways to minimize your exposure, and several phone numbers to call for more information.

New rules for structural fumigation have substantially increased the time between fumigant use and the time an occupant is allowed back into the building. Post-fumigation ventilation has also been improved significantly. These changes should be adequately protective, but you should know some basic facts about structural fumigants.

Why Buildings Are Fumigated - Houses and other structures are fumigated to kill insect pests living in walls or wood. There are sometimes other ways to deal with these pests, and building owners should investigate them. However, fumigation is sometimes the only method for handling extensive infestations of wood-destroying insects. You can discuss the possibility of alternatives with your pest control company.

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Why Buildings Are Fumigated - There are two pesticides used for structural fumigations: methyl bromide and sulfuryl fluoride (known by the trade name, Vikane.) Each has advantages and disadvantages in terms of their effectiveness in killing pests which professional fumigators can discuss with you. Your fumigator should also provide you with a list of items you need to remove from your home before the fumigation starts.

Methyl bromide is a gas. Before fumigation starts, the building to be fumigated is completely sealed and covered with a tarp to keep the gas in the building so it can penetrate wood to kill the pests. The tarp is left on for one to two days. Warning signs are posted around the building notifying people to keep out because the levels of the pesticide in the building during fumigation can kill a person.

After the tarp is removed, a professional fumigator will go into the building wearing a compressed air tank and mask and open the doors and windows. Powerful fans may also be set up to pull fresh air into the building.

It is now required that buildings fumigated with methyl bromide be aired out for a minimum of 72 hours after the tarp is removed. Then, the fumigators are required to measure the levels of methyl bromide inside the walls of buildings to make sure they are below three parts per million before you are allowed to go back in.

The ventilation procedures make it unlikely that any remaining fumigant in the living space will be a health hazard after the house is cleared for reoccupancy. However, you should be aware of the symptoms of overexposure to methyl bromide, since it is sensible to be cautious when dealing with a potentially hazardous chemical.

Small pockets of fumigant can remain in dead air space between walls and inside cabinets, and in porous material such as furniture, and may enter into the living space for a few days after fumigation. That's why a mandatory aeration period is required after the tarp is removed. Your building should not be cleared for reoccupancy until it is safe for you to reenter.

How Do You Know Whether You Are Exposed - Methyl bromide is a colorless, odorless gas, so a warning agent is added which causes watery eyes and a scratchy throat. If you experience these symptoms in a building that has been recently fumigated, you should leave immediately and call the pest control company to have your building retested. You should also consult with your physician.

Methyl Bromide Health Risks - Methyl Bromide enters your body as a gas when you breathe it. Exposure which may occur from touching treated surfaces is insignificant.

Nervous system, eyes, and respiratory irritations: Overexposure to methyl bromide can cause blurred vision, headache, and nausea. At higher concentrations, it can cause tremors, sleepiness, convulsions, pneumonia, and excess fluid in the lungs. These symptoms may not appear for 12 to 24 hours. If you experience these symptoms in a recently fumigated building, you should leave immediately and call the pest control company to have the building retested. You should also call your personal physician. Physicians are encouraged to report suspected pesticide-related illnesses to EPA.

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Birth defects: In recent animal studies, methyl bromide caused birth defects when pregnant animals were exposed under experimental conditions. There is no evidence that methyl bromide affects human reproduction, although some chemicals which cause birth defects in animals may also cause birth defects in humans. Any person, including pregnant women, should avoid unnecessary exposure.

Other effects: It is not known whether long-term exposure to methyl bromide causes cancer. Experiments in animals are underway to study this, although tests so far are negative. However, even if methyl bromide were shown to cause cancer over a lifetime of exposure in animals, it is unlikely that your exposure from the one-time fumigation of your building would be high enough to cause a significant risk of cancer.

Ways To Reduce Your Exposure If You Are Having Your Building Fumigated -

- Carefully evaluate all your pest control alternatives.
- Talk over your treatment program in advance with the pest control company, so you fully understand what will be done, and what you need to do.
- Carefully follow the instructions you are given about items you are to remove from your building.
- Stay out of the treated building for at least three days after the tarp is removed. If you have additional concerns, you may choose to be away for an extra period of time after the building is cleared for reoccupation.
- If you are interested or concerned, you can ask your pest control company to show you the records of the air monitoring it did before your building was cleared for reoccupation.
- You may wish to increase ventilation by opening doors and windows.
- If you have symptoms of exposure, or you believe that the aeration was not done properly, you should leave the building and contact the pest control company and your physician. You may also wish to call one of the phone numbers listed below.

For information about pesticides, the U.S. Environmental Protection Agency has a toll-free information service, the National Pesticide Telecommunications Network Hotline, which can be reached at 1 (800) 858-7378.

In a medical emergency, call 911, or contact the nearest Poison Control center. See "Crisis Hotlines" listed near the front of the white pages in your phone book.

If you feel uncomfortable entering the structure, or if you do not fully understand the potential hazards, you should call the company that performed the fumigation:

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Name: _____

Address: _____

City: _____

Telephone: _____

I acknowledge receiving a copy of the methyl bromide fact sheet.
(You will sign one copy for the company doing the fumigation, and get
a second copy to keep for later reference.)

Signature: _____ Date: _____

Please print your name here: _____

Your address: _____

FOR FUMIGATION OF RESIDENTIAL AND COMMERCIAL STRUCTURES, THESE
DIRECTIONS SUPERS&DE ANY OTHER DIRECTIONS ON THE LABEL CONCERNING
AERATION AND REENTRY

LABELING FOR END-USE PRODUCTS:

The label language for Fumigation of Residential and Commercial
structures: Aeration and Reentry would be the same as for
manufacturing-use products except the introductory paragraph
concerning formulation into end-use products would be omitted.

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