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05 DEC 1978

Soil Chemical Corporation
P. O. Box 531
Morgan Hill, CA 95037

Gentlemen:

Subject: Methyl Bromide 100
EPA Registration Number 8536-15
Your Application for Amended
Pesticide Product Registration
Dated October 15, 1978

The labeling referred to above, submitted in connection with
registration under the Federal Insecticide, Fungicide, and
Rodenticide Act, is acceptable, and a stamped copy is enclosed
for your records.

Sincerely,

man

William H. Miller
Product Manager (16)
Insecticide-Rodenticide Branch
Registration Division (TS-767)

TS-767:WMILLER:bje125:RAVEN:x479-2018:11/29/78:#13294

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.

METHYL BROMIDE 100 FUMIGANT

FOR USE AS AN AID IN THE CONTROL OF
STRUCTURAL PESTS, HOUSEHOLD INSECT PESTS,
STORED PRODUCT PESTS, AND AS A PRE-PLANT
SOIL TREATMENT.

ACTIVE INGREDIENT: METHYL BROMIDE 100%

KEEP OUT OF REACH OF CHILDREN.

147
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.

SOIL CHEMICALS CORPORATION

P. O. BOX 531

MORGAN HILL, CALIF. 95037

E.P.A. EST. 8536-CA-1,2,3,4; FL-1
E.P.A. REG. NO. 8536-15

NET CONTENTS LBS.

ENVIRONMENTAL HAZARD

The successful use of Methyl Bromide depends upon its complete containment during the fumigation exposure period. Monitor area immediately surrounding the fumigation site with a halide detector (see aeration statement for halide detector use) during exposure and aeration periods to establish that dangerous levels of Methyl Bromide-100 are not present. The high volatility of Methyl Bromide-100 permits it to be vented from space being fumigated and to dissipate rapidly with no hazard to surrounding areas with correct monitoring. To avoid injury to fish or other wildlife do not allow Methyl Bromide-100 to contact bodies of water such as an improper disposal. (See instructions under handling and shipping for return of excess Methyl Bromide-100.)

CHEMICAL HAZARD

Methyl Bromide is practically non-flammable. There is no danger from fire or explosion in use concentrations. However, flame can change the chemical to produce some corrosive damage to items in the space being fumigated. Pilot lights and glowing wire heaters should be turned off.

Do not apply gas directly to metal surfaces because of possible corrosive effect on certain metals.

Do not use containers or application equipment made of magnesium, aluminum or their alloys.

The following materials can develop undesirable odor when encountered in structural fumigation and should be removed from the space being fumigated:

1. Foodstuffs: (a) Iodized 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 curing hick.
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 pillows. (Especially feather pillows.)
4. Leather goods — particularly white kid or any other leather goods tanned with sulfur processes.
5. Woolens—extreme caution should be used in the fumigation of any angors woolens, and some adverse effect has been noted on the fumigation of woolen suits, coats, blankets, hand-knit woolen socks, sweaters, shawls and woolen yarn.
6. Viscose rayons—those rayons processed or manufactured by a process in which carbon disulfide is used.
7. Paper: (a) Silver-polishing papers (b) Certain writing papers cured by sulphide processes.
8. Photographic chemicals as used in photo processing darkrooms, (does not include camera film).
9. Rug padding.
10. Under blocks.
11. Mixed 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.

AERATION

At the end of the exposure period remove all seals and open all doors and windows that are operational. Allow for complete ventilation. Use ventilation whenever possible to remove fumigant from dead air pockets. To determine the completeness of aeration, use a suitable halide gas detector.

Wear a gas mask during aeration or if there is any doubt as to completeness of aeration.

Certain materials absorb methyl bromide during fumigation and de-aeration during aeration may call for extended monitoring and aeration periods.

HALIDE GAS DETECTOR: Color of the flame is an index of the concentration of methyl bromide present. The following tabulated information provides an index of flame color and concentration of methyl bromide present:

METHYL BROMIDE LB/1000 CU. FT.	FLAME COLOR IN DAYLIGHT*
0	None
25	0.00625 Paint green fringe
50	0.0125 Moderate green
125	0.031 Green
250	0.0625 Strong Green
500	0.125 Strong blue-green fringe
1000	0.25 Strong blue-green
2000	0.50 Blue
4000	0.75 Blue

*Nighttime color is identical, but allowance must be made for the bluish cast of the flame itself.

DRUG & GAS DETECTOR: Hand Pump and Detector Tube, range: 5 to 80 P.P.M. Methyl Bromide may be detected at the Threshold Limit Value (T.L.V.) of 25 P.P.M.

DETECTORS AVAILABLE FROM SOIL CHEMICALS CORPORATION.

DIRECTIONS FOR USE

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

SPACE FUMIGATION

AREAS TO BE FUMIGATED: Under sealed tarpaulins, in flour mills, feed mills, textile mills, warehouses, boxcars, fumigation vaults, and flat or upright bulk grain storages.

INSECTS, PESTS CONTROLLED: Granary weevil, rice weevil, saw-toothed grain beetle, confused and red flour beetles, drugstore beetle, Trogoderma spp., cadellie, mealworms, bean weevil, dried fruit beetle, weevil, moth, stored wheat, Indian meal moth, Mediterranean flour moth, and mites.

PREPARATION FOR FUMIGATION:

- (1) Remove fresh fruit, seeds, bulbs and living plants from the area to be fumigated as they may be damaged during treatment. However, some of these items may be fumigated under Department of Agriculture recommendations under controlled conditions.
- (2) Do not fumigate food products other than those for which a residue tolerance is registered with the E.P.A.
- (3) Do not use dosages higher than those recommended as this may, in some cases result in residues in excess of those permitted.
- (4) Do not fumigate grain if: moisture is high, temperature is low (below 60° F., or there is excessive dockage.
- (5) Space to be fumigated should be covered with tarpaulins and sealed or in the case of boxcars and buildings all external openings should be closed. Seal building roof ventilators and chimneys by wrapping them with a tarpaulin, or plastic sheet, or by stripping the screened openings with a wide commercial masking tape.
- (6) Stairwells and interior doors should be closed. Any broken panes should be replaced, then exterior doors and windows should be wedged tight, locked, and cracks caulked or taped. Check for cracks in the floor, roof, and around eaves and seal them.
- (7) Special care should be taken to seal partitions to adjacent storage or work areas in a building. Adjoining buildings sharing a common wall should be sealed before fumigation. If possible, if this is not feasible, spread a glossy type building paper, Sealcraft or asphalt laminated paper, plastic film, or a heavily oiled kraft or wrapping paper to prevent spread of the fumigant into undesired areas. In all such cases where the adjoining building is occupied, it should be checked frequently with a Halide Detector during fumigation to insure the safety of the occupants.

FUMIGATION: Release Methyl Bromide-100 through a heat exchanger or suitable leak proof tube (such as polyethylene) from outside of structure. If it is necessary to release fumigant from inside of structure, a gas mask must be worn as described in No. 1 of Precautionary Statement. Operate electric fan(s) for 30 min. after release to accelerate distribution of gas.

CONTINUED IN FOURTH COLUMN

ACCEPTED

DEC 5 1978

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 8556-15

RATES OF APPLICATION METHYL BROMIDE-100

COMMODITY	Dosage in the per 1000 cu. ft.	Exposure time in hours	Temperature in ° F.	Aeration time in hrs. and comments
Beans & peas, dry	2	24	60	12
Candy	1-2	12-24	60	24
Cocoa Beans (bags)	1½	24	60	12
Fruits, Dried	1½	24	50-59	48
Apple, apricot, date, fig, peach, pear, prune, raisins	1		60	
Flour and cereal products (bags, packages)	1	24	60	24
Grain				
Shelled corn	2	24	60	12
Barley, Oats, Rice, Rye, Wheat	3	24	60	Use forced re-circulation
Grain Sorghum (Milo)	4	24	60	for bulk bins
Nuts				
Almond, brazil, macadamia, filbert, chestnut, pecan, hickory, pistachio, cashew, walnut	3½	24	60	24
MISC. SPACE FUMIGATION				
Buildings, warehouses, flour mills, food processing plants				
Less than 100,000 cu. ft.	1-2	16-24	60	12
100,000 to 500,000 cu. ft.	1	16-24	60	12
BOXCARS				
Fumigate static cars only, do NOT fumigate in transit.				
Steel	3-5½	16-24	60	4
Wood	3½-4½	16-24	60	4
Vans, Trailer	1-3	16-24	60	4
Vacuum chambers	1-2	3	60	4

*AERATION
See aeration statement. Adhere to specific aeration periods as per the above table.

STRUCTURAL FUMIGATION

AREAS TO BE FUMIGATED: Dwellings, garages, barns and storage buildings.
INSECTS AND PESTS CONTROLLED: Lyctus or powder post beetle, old house borer, death watch beetle, roaches, earwigs, 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 medicinals. Polyethylene bags must be sealed with masking tape or clamps. Open all doors and accesses to crawl spaces, attics and sub-floors. For fabric pest control, open storage chests, drawers, and closets. For masonry or metal structures, caulk 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 moist soil or sand snakes. Hook each side with water one foot 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 2-4 to 3 pounds of Methyl Bromide 100 per 1000 cu. ft. for 24 hours exposure time. Under adverse conditions, increase dosage to 3-4 to 3-5 pounds per 1000 cu. ft.

WARNING: USE IN CLEARING STRUCTURES PRIOR TO FUMIGATION: After preparing the structure for fumigation and sealing except for one entrance, place a handful of cotton in a shallow dish and set the dish in the air stream of an electric fan. Four chloro-pierin over the cotton. Use 1 ounce per 10,000 to 15,000 cubic feet of space to be fumigated. Seal the last opening to the building and start the fan. Check for leaks. Five to ten minutes later introduce the Methyl Bromide 100.

FUMIGATION: Release Methyl Bromide-100 from outside the structure thru a heat exchanger to convert from liquid to gaseous state, or introduce thru 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 large or complex structures, release it at two or more locations, so chosen as to ensure even gas distribution.

AERATION: See aeration statement.

FUMIGATION FOR CONTROL OF THrips ON POST HARVEST STRAWBERRY FRUIT (FOR DISTRIBUTION AND USE ONLY WITHIN CALIFORNIA)

Apply 3 lbs. Methyl Bromide-100 per 1000 cubic feet for two hours at 60° to 70° F. Fumigation must be carried out in a gas tight chamber or under gas tight tarpaulins.

PREPLANT SOIL FUMIGATION

METHYL BROMIDE 100% may be used as a preplant soil fumigant applied as a volatile liquid by soil injection methods under gas-proof tarp to previously conditioned soil.

USES ARE:

LAND TO BE PLANTED TO GRAPES.

CONTROLS THE FOLLOWING SOIL PESTS:

Nematodes as listed: Citrus, Pin, Ring, Lesion, Dagger, and Root Knot.

WHEN TO TREAT:

Treat in spring or fall whenever soil conditions are suitable. In northern states, late summer or early fall treatment is best for land to be planted to early spring crops. DO NOT TREAT WHEN SOIL TEMPERATURES ARE BELOW 50°.

APPLICATION:

DEEP CHISEL METHOD:
Subsurface soil should be as dry as possible, as excess soil moisture will block deep penetration of Methyl Bromide 100. Plant soils and soils very high in organic content should not be fumigated. Clay soils and soils that drain poorly may be dried out by planting Sudan Grass. Follow seed producer's recommended practices, except that water should be withheld during the summer, and Sudan Grass should be thoroughly chopped before commencing final land preparation. Chiseling the soil as deeply as possible, preferably 36 inches, and in at least two directions, will aid in moisture removal and provide optimum tilth. A light surface sprinkling with water, sufficient to wet the upper 6 to 12 inches may aid in soil surface preparation, and will improve control of surface weed seeds without adversely affecting the deep fumigation. Disk to smoothness. Inject fumigant by means of tractor mounted chisels spaced not more than 5½ ft. apart and at a depth of 18 to 36 inches below soil surface. Seal fumigant immediately after application with a gas tight tarpaulin applied by means of a mechanical tarp layer.

CONTINUED IN FIFTH COLUMN

DOSAGE AND EXPOSURE TABLE FOR SOIL FUMIGATION WITH METHYL BROMIDE 100%

NOTE: ONE GALLON OF METHYL BROMIDE 100 WEIGHS 14.1 LBS.

PEST CONTROL DESIRED	CROP OR TYPE OF SOIL	METHOD OF APPLICATION	DOSAGE	MIN. EXP. TIME	AERATION BEFORE TIME PLANTING
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Nematodes: Citrus, Pin, Ring, Lesion, Dagger, Root Knot.)
Grapes Light Soil DeepChisel 400 lbs. per acre 7 DAYS Do Not Plant Before 30 Days
Heavy Soil DeepChisel 600 lbs. per acre 7 DAYS Do Not Plant Before 30 Days
Do not apply to soil where vines will bear fruit within 24 months.

STORAGE AND RETURN OF FUMIGANT CYLINDERS

STORAGE

Do not store with food, feeds, or 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.

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.

RETURN OF CYLINDERS

- (1) Cylinders are the property of: Soil Chemicals Corp. 2500 East 29th Street Long Beach, Ca. and should be returned promptly by collect auto freight.
- (2) When a cylinder is empty, the valve should be closed, the safety cap screwed on the valve outlet, and the protective bonnet replaced prior to its return to the shipper.
- (3) Do not ship cylinders without safety caps or valve protection bonnets.
- (4) When a cylinder is partially full and there is no further requirement for the product, contact Soil Chemicals Corp. for return instructions.
- (5) Containers should never be refilled by the consumer or used for any other product or purpose.

SHIPPING

This fumigant is classified in the U.S. Department of Transportation Hazardous Materials Regulations as Methyl Bromide Liquid, class "B" poison, and no exemptions from specification packaging, marking and labeling are allowed. Describe empty cylinders as having formerly contained Methyl Bromide Liquid. Do not ship with food, feeds, or clothing.

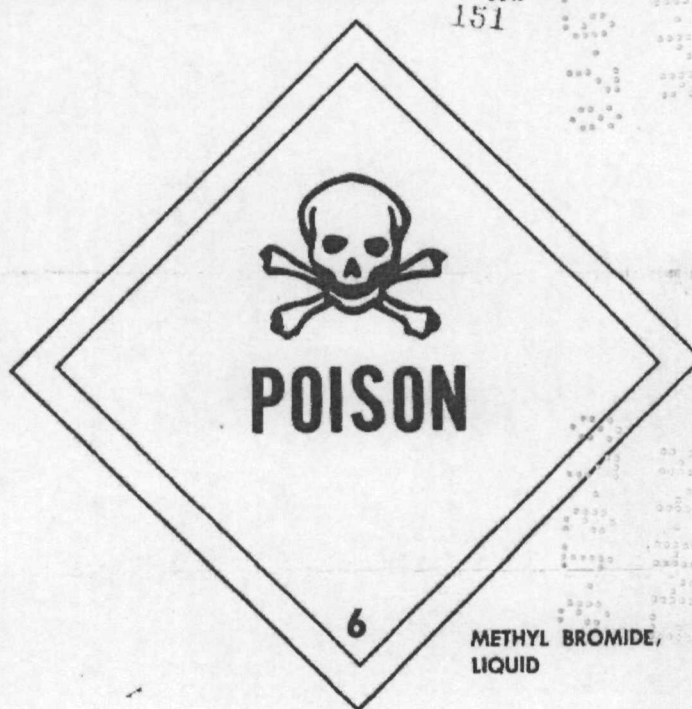
HANDLING

- (1) The valve protection bonnet and safety cap should be removed only when fumigant is about to be removed from the cylinder.
- (2) Cylinders should never be subjected to rough handling or to abnormal mechanical shock such as dropping, bumping, dragging or sliding.
- (3) Hooks, slings, hooks, tongs, and similar handling devices should not be used for unloading cylinders.
- (4) A suitable hand truck, fork truck, or similar device to which the cylinders can be firmly secured, should be used for transporting the heavier cylinders.

WARRANTY

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

8-1-78



METHYL BROMIDE, LIQUID

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 SOIL CHEMICALS 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. Methyl Bromide 100 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 II, where the vapor concentration is known to be under 2% by Volume (6 lbs. per 1000 cu. ft.). Read and follow the gas mask manufacturer's 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, 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, OR 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 Methyl Bromide 100.
6. KEEP AWAY FROM HEAT SOURCES, such as heating devices.
7. Always have an assistant and proper equipment when using Methyl Bromide 100 to aid in case of accidents.
8. Keep animals, children and unauthorized people away from area under treatment until area is certified free of Methyl Bromide 100. (See aeration statement.)

WARNING SIGNS

Place the fumigated area(s) with warning signs reading: DANGER - POISON, KEEP AWAY. THIS AREA TREATED WITH METHYL BROMIDE, DO NOT ENTER. Signs must be placarded with D.O.T. specified warning signs. Warning signs available from your dealer or Soil Chemicals Corporation.

9. Comply with all local regulations and ordinances.
10. 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.
11. It is advisable to supply your physician with information on Methyl Bromide-100. Literature is available from Manufacturing Chemists Association, 1625 Connecticut Avenue, N.W., Washington, D.C. 20009 (Chemical Safety Data Sheet SD-33) or from your dealer.

WHEN FUMIGATING SOIL
OBSERVE THESE PRECAUTIONS:

12. 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.
13. Handle this fumigant in the open, with the operator "up wind" from the container where there is good ventilation.
14. Always have adequate clean water available to wash skin and or flush eyes. 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. The water must be drinkable but in containers marked (water not for drinking).
15. Check fumigant pressure system for leaks before beginning operation.
16. Do not lift injection shanks to turn at end of a pass until fumigant has drained from system following closure of shutoff valve.
17. Trash pulled by the shanks to the ends of the field when fumigating must be covered by lifting the shanks, then covering the trash with polyethylene film before making the turn for the next pass.
18. In case of a rupture of hose or fitting while applying fumigant, immediately stop tractor and motor. Get off tractor and get to a place where the problem can be observed without exposure to fumes. Approach from upwind, with respiratory protection if required, and make necessary repairs.
19. When changing the cylinders be certain they are turned off and fumigant system is not under pressure. Do not open the system when there are people or structures downwind.
20. Post all treated areas with warning signs. Available from Soil Chemicals Corp.
21. Keep all animals, children and unauthorized people away from area under fumigation during the exposure period and during removal of tarpaulin.
22. Do not feed domestic animals on crop residues unless an E.P.A. tolerance exists for such use. Examples are, but not limited to, seeded or volunteer cover crops growing on soil which has been fumigated as a preplant treatment for a registered crop use.
23. **NOTE CAREFULLY:** Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid, or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil tests made after fumigation. To avoid ammonia injury or nitrate starvation, or both, to crops, avoid using fertilizers containing ammonium salts and use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65° F. Liming highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

SEE PRECAUTIONS CONTINUED THIRD COLUMN