

UNITED STATES ENVIRONMENTAL-PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Jan 2, 2001

Bruce A. Houtman
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268-1054

Subject: Vikane label amendment
EPA Reg. No. 62719-4
Submission dated 10/17/00

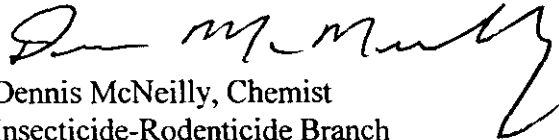
Dear Mr. Houtman:

The revised labeling referenced to above, submitted in connection with the registration under the Federal Insecticide, fungicide, and Rodenticide Act (FIFRA) as amended, is acceptable provided that you make the labeling changes indicated before you release the product for shipment bearing the amended labeling:

- 1) On page 7, add "(or equivalent)" after "... or double bagged in Nylofume* bags".
- 2) On page 7 under the heading "Connected Structures" add the following the following sentence at the end of the paragraph: "Vikane concentration levels must be monitored in any connected space or structure that is not vacated."

The Agency notes that this label revision incorporates the calibration requirement requested in Kathy Monk's letter dated Jan 20, 1998. If you have questions, please contact Dennis McNeilly at (703) 308-6742 or electronically at meneilly.dennis@epa.gov.

Sincerely,


Dennis McNeilly, Chemist
Insecticide-Rodenticide Branch
Registration Division (7505C)

CC: SRED

(Base Label):

00XXXXXX

[Insert 2-Point Black Line]

<p>RESTRICTED USE PESTICIDE DUE TO INHALATION TOXICITY</p> <p>For 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.</p>

(Logo) Dow AgroSciences LLC

Vikane*

For control of: Existing infestations of insects and related pests such as (or including) drywood termites, Formosan termites, powder post beetles, death watch beetles, old house borers, bedbugs, cockroaches, clothes moths, rodents (rats, mice), and the larvae and adults of carpet beetles (except egg stage), oriental, American, and brown-banded cockroaches.

For use in: Dwellings (including mobile homes), buildings, construction materials, furnishings (household effects), shipping containers and vehicles including automobiles, buses, surface ships, rail cars, and recreational vehicles (but not including aircraft).

When fumigating, observe local, state, and federal rules and regulations including such things as use of chloropicrin, clearing devices, positive-pressure self-contained breathing apparatus, security requirements, and placement of warning signs.

Active Ingredient	
sulfuryl fluoride	99.8%
Inert Ingredients	0.2%
Total	100%

ACCEPTED
with COMMENTS
In EPA Letter Dated:
JAN - 2 2001
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
62719-4

Keep Out of Reach of Children

DANGER  **POISON**

[Editors note: the word POISON must appear in red]

PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements
Hazards to Humans and Domestic Animals
Extremely Hazardous Liquid And Vapor Under Pressure • Inhalation of Vapors May Be Fatal
Liquid May Cause Freeze Burns of Exposed Skin
Do not get in eyes, on skin, or on clothing. Vikane* gas fumigant is odorless. Exposure to toxic levels may occur without warning or detection by the user.

(Datapack cover):

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Refer to label booklet for additional precautionary information and Directions for Use.

Notice: Read the entire label. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

XX XX
EPA Est. _____

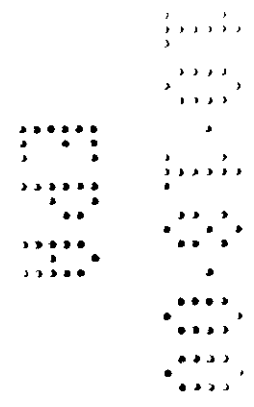
EPA Reg. No. 62719-4

Superscripts correspond to places 7 & 8 of lot number
900-000000 / 00000000

*Trademark of Dow AgroSciences LLC
Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

Specialty Gas Fumigant

Net Contents _____



Storage and Handling

Store in dry, cool, well ventilated area under lock and key. Post as a pesticide storage area. Do not contaminate water, food, or feed by storage.

Store cylinders upright; secured to a rack or wall to prevent tipping. Cylinders should not be subjected to rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Do not use rope slings, hooks, tongs, or similar devices to unload cylinders. Transport cylinders using hand truck or fork truck to which the cylinder can be firmly secured. Do not transport any cylinders in closed vehicles where they occupy the same common airspace as personnel. Transport securely only in an upright position.

Do not remove valve protection bonnet and safety cap until immediately before use. Replace safety cap and valve protection bonnet when cylinder is not in use.

When cylinder is empty, close valve, screw safety cap onto valve outlet, and replace protection bonnet before returning to supplier. Only the registrant is authorized to refill cylinders. Do not use cylinder for any other purpose. Follow registrant's instructions for return of empty or partially empty cylinders.

Leak Procedures: Evacuate immediate area of leak. Use a NIOSH or MSHA approved positive pressure self-contained breathing apparatus (SCBA, not SCUBA) or combination air-supplied/SCBA respirator, such as manufactured by Ranger, Survivair, Scott, or MSA, for entry into affected areas to correct problem. Move leaking or damaged cylinder outdoors or to an isolated location, observing strict safety precautions. Work upwind if possible. Do not permit entry into leakage area by unprotected persons until concentration of fumigant is determined to be 5 parts per million (ppm) or less, as determined by a detection device with sufficient sensitivity such as an INTERSCAN or MIRAN gas analyzer. For more detailed information on the source and use of air monitoring devices or respirators, consult the Vikane Gas Fumigant Structural Fumigation Manual.

Cylinder and Product Disposal: Promptly return all empty cylinders to your distributor of Vikane. Follow proper cylinder handling directions above.

Pesticide wastes are toxic. Improper disposal of excess pesticide is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, consult your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

General Information

Before using, read and follow all label precautions and directions. Prior to the parties entering into a fumigation agreement, the Fact Sheet for Vikane must be provided to an adult occupant of the structure to be fumigated.

Vikane is a highly hazardous material and should be used only by individuals knowledgeable of the hazards of this chemical and trained in the use of required respiratory equipment, detector devices, emergency procedures, and in the proper use of this fumigant.

When used for fumigation of enclosed spaces, such as houses and other structures, warehouses, vaults, chambers, trucks, vans, boxcars, ships, and other transport vehicles, 2 persons trained in the use of this product, at least one being an applicator that is licensed/certified by the state, must be present during introduction of fumigant, reentry prior to aeration, and during the initiation of the initial aeration procedure. **Two persons need not be present if monitoring is conducted remotely (outside the area being fumigated).**

If fumigating for insect pests, do not apply when temperature at site of pest activity is below 40°F. This temperature may be measured at the slab foundation, sub-floor soil, or wherever the coolest part of the structure may be. This restriction does not apply when fumigating for rodents.

When fumigating a single unit/room within or connected to a larger structure (such as town houses, apartments, condominiums) all units of the entire structure must be vacated during the fumigation and aeration periods.

Remove edible items from the structure before the fumigation if they cannot be adequately sealed to prevent exposure to Vikane. Chloropicrin must be used as described on the label to warn of an ongoing fumigation.

Preparation for Fumigation

Structural Fumigation

Remove from the structure to be fumigated all persons, domestic animals, pets, and desirable growing plants. Remove mattresses (**except waterbeds**) and pillows completely enveloped in water proof covers or remove covers. Food, feed, drugs (including tobacco products), and medicinals (including those items in refrigerators and freezers) can remain in the structure if they are in plastic, glass, or metal bottles, cans, or jars with the original manufacturer's air-tight seal intact. Food, feed, drugs (including tobacco products), and medicinals (including those items in refrigerators and freezers) not in plastic, glass, or metal bottles, cans, or jars with the original manufacturer's air-tight seal intact, need to be removed from the fumigation site, or double bagged in Nylofume* bags, which are available from distributors of Vikane gas fumigant.

Note: Extinguish all flames, including pilot lights of water heaters, gas refrigerators, ranges, ovens, broilers, etc. Turn off or unplug all electrical heating elements such as those in heaters, pianos, organs, etc. Shut off automatic switch controls for appliances and lighting systems which will be included in the space to be fumigated.

Open operable internal doors, internal openings to attics and sub areas, storage chests, cabinets, drawers, closets, and appliances (such as washers, dishwashers, dryers, microwave or conventional ovens, etc.). Using electric fan(s) will help provide for forced distribution and aeration of basements and other dead air spaces to facilitate rapid dispersion of gas. Refrigerator and freezer doors may be left open if the units are turned off or disconnected and all food items have been removed. If the applicator chooses to leave sealed food items in closed refrigerators and freezers during the fumigation, the appliances should be opened when clearing the structure until the concentration of Vikane in them is 5 ppm or less.

Multi-unit Structures

When fumigating a single unit/room within or connected to a larger structure (such as town houses, apartments, condominiums) all units of the entire structure must be prepared as a fumigated structure, and all applicable rules, regulations and label instructions apply, such as occupant notification, structure preparation, posting, securing, and aeration. An adult occupant of each currently occupied unit must be provided with the Fact Sheet for Vikane. Ensure that all exterior entranceways and exterior doors of individual units are secured with secondary locks (see "Securing Structure Entrances") so that only the state licensed applicator in charge can gain access. Chloropicrin need only be used in units where Vikane is introduced. During aeration, check all units within the fumigated structure for Vikane concentration with an approved clearance device. If concentration of any non-fumigated units exceeds 5 ppm, use Aeration Procedure 1 or 2 to aerate the non-fumigated units based on the initial concentration of the fumigated unit(s).

Connected Structures

A connected structure is defined as any structure connected with the structure to be fumigated by construction elements (e.g. pipes, conduits, ducts, etc.) which may allow passage of fumigant between the structures. Any connected structure must be vacated during the fumigation process unless it is isolated from the structure to be fumigated by methods which prevent passage of the fumigant from the structure to be fumigated into the connected structure. Note: connected structures must be vacated if required by state laws or regulations. When it is necessary to vacate any connected structure, that structure shall be considered as a fumigated structure, and all applicable rules, regulations and label instructions apply, such as occupant notification, structure preparation, posting, securing, and aeration. Chloropicrin need only be used in structures where Vikane is introduced.

Tarpaulin Fumigation

Open operable windows. When tarping, use a highly resistant material such as a vinyl coated nylon, or polyethylene sheeting of at least 4 mil thickness. Seal all seams. Seal all low edges of the cover, (such as

with soil, sand, or weighted "snakes"). To minimize escape of gas through the soil and to avoid injury to nearby plants, wet soil outward from foundation to the cover if not sufficiently moist to act as a barrier for the gas.

Taped Fumigation

For fumigation sites that can be sealed with plastic, paper, or tape, seal adequately around doors, windows, vents, and other openings.

Chamber Fumigation

For chamber fumigation use a gas-tight chamber with adequate circulation.

Construction Materials, Furnishings (Household effects), and Vehicles

Follow preparations as appropriate in above paragraphs for chamber, taped fumigation, or tarpaulin fumigation to assure good confinement of the gas for the recommended period of exposure.

Fumigation of Surface Ships in Port

Surface ships in size up to and including large ocean-going ships may be fumigated with Vikane to control the various pests listed. The professional fumigator and the ship's captain (or owner) shall follow all applicable regulations including those listed in the Coast Guard, DOT, Title 46, Shipping, section Parts 147A.1-147A.43. Except for those persons involved in fumigation, no people, plants, or pets may be on-board during fumigation.

The person responsible for the fumigation must notify the master of the vessel, or his representative, of the requirements relating to personal protection equipment and detection equipment. Emergency procedures, cargo ventilation, periodic monitoring and inspections, and first aid measures must be discussed with and understood by the master of the vessel or his representative.

If leakage of the fumigant is detected, the person in charge of the fumigation shall take action to correct the leakage, or shall inform the master of the vessel, or his representative, of the leakage so that corrective action can be taken.

Edible commodities shall not be exposed to the chemical. If not removed from the vessel they shall be protected from exposure. The vessel must not be moved during the fumigation and aeration periods. If reentry is necessary before aeration is completed, positive pressure self-contained respiratory protection must be worn.

Warning Agent

Chloropicrin is a warning agent introduced into the structure during fumigation. In order to avoid direct exposure to the fumigant being released, chloropicrin must be released within the structure at least 5 to 10 minutes prior to introduction of the fumigant. Place a handful of wicking agent, (e.g., cotton) in a shallow chloropicrin evaporation container. Do not use chloropicrin evaporation containers or application equipment made of magnesium, aluminum, or their alloys, as chloropicrin may be severely corrosive to such metals. To enhance the distribution of chloropicrin throughout the structure, place the shallow chloropicrin evaporation container in the air stream of a fan. Pour chloropicrin over the wicking agent. When adding chloropicrin to evaporation containers, dispense no more than 3 fluid ounces per container. Use 1 fluid oz/10,000 to 15,000 cubic feet - (30 ml/283 to 425 cubic meters) of space to be fumigated. Establish at least one chloropicrin introduction site for each 45,000 cubic feet of space to be fumigated. Removal of all chloropicrin evaporation containers from the fumigated space during "Step (1)" of "Aeration Procedure 1 or 2" will aid in the dissipation of the warning agent from the structure.

Chloropicrin need not be used when fumigating railcars; however, a thorough walk-through inspection, must be performed of each railcar with doors being immediately locked upon leaving each car, and a guard must be posted during fumigant introduction, exposure period, and aeration.

Chloropicrin is a warning agent which causes smarting of the eyes, tears, and discomfort, and has a very disagreeable pungent odor at very low concentrations. Chloropicrin must be used by a persons certified to apply Vikane or under their supervision. Fumigators must observe the precautionary statements and safety recommendations appearing on the label of this product.

Pest	Dosage Factor (as a multiple of drywood termite dosage)
Rodents†	1/2X
Carpet Beetle†† and Cockroach††	1X
Furniture Carpet Beetle†† and Bedbugs	3X
Old House Borers and Formosan Termites	4X
Clothes Moths	6X
Powder Post Beetles and Death Watch Beetles	10X

These dosages apply to dwellings, buildings, construction materials, furnishings, and vehicles.

†To determine the proper dose for rodent control, use 80°F as the calculating temperature. Unlike insects, rodents are warm blooded and do not require increased dosages at lower temperatures.

††More than 1 fumigation may be needed to control the infestation after egg hatch.

For fumigation to control rodents, use sufficient gas to accumulate at least 36 ounce-hours following equilibrium, regardless of ambient air temperature. Refer to the Vikane Gas Fumigant Structural Fumigation Manual.

The Fumiguide B Calculator is to be used for unmonitored structures to coordinate fumigant rates with temperatures, a 20 to 24 hour exposure period, and an estimated HLT.

The Fumiguide Y Calculator is used in conjunction with Fumiguide B when fumigant concentrations are monitored and/or there are measured variations in exposure time.

The Fumiguide Calculator is a hand held microprocessor which performs the functions of both the Fumiguide B and Y calculators and includes relative humidity as a calculating factor.

These calculators, Directions For Use, and referenced literature may be obtained from Dow AgroSciences.

Introducing the Fumigant

Release the fumigant from outside the structure, tent, or vehicle. The release point(s) should be into a large open space(s) in the fumigation site(s). Release the fumigant through a suitable leak-proof tube with a minimum burst pressure of 500 pounds per square inch (psi). Direct the fumigant into the blast of air from a fan(s) having a capacity of at least 1,000 cubic feet per minute (cfm) for each pound of Vikane released per minute. Damage to household materials can occur if insufficient fan capacity is used for the rate of Vikane released. It is recommended that protective sheeting, such as polyethylene plastic under the shooting stand, shooting hose, and shooting fan can be used to further protect floors during application. **To Prevent Damage, Do Not Apply Fumigant Directly To Any Surface.**

Posting of Fumigated Areas

The applicator must post all entrances to the fumigated areas with signs bearing, in English and Spanish:

1. The signal word DANGER/PELIGRO and the SKULL and CROSSBONES symbol. , , , , ,
2. The statement, "Area under fumigation, DO NOT ENTER/NO ENTRE". , , , , ,
3. The date of fumigation. , , , , ,
4. Name of fumigant used. , , , , ,
5. Name, address, and telephone number of the applicator. , , , , ,

Only a certified applicator may authorize removal of placards, and only when the concentration of Vikane in the treated site is 5 ppm or less. , , , , ,

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, , , , ,
, , , , ,

Aeration and Reentry

No one should be in treated areas if the level of Vikane is above 5 ppm unless provided with a NIOSH or MSHA approved positive pressure self-contained breathing apparatus (SCBA, not SCUBA) or combination air supplied/SCBA respirator, such as manufactured by Ranger, Survivair, Scott, or MSA. **Note: during the initial one hour aeration procedure, approved respiratory protection must be worn until the concentration of Vikane is confirmed not to exceed 5 ppm with an approved detection device.** Since the INTERSCAN and MIRAN gas analyzers give immediate readings, respiratory protection is not required when clearing with these instruments after having completed the initial 1 hour aeration procedure. If a reading indicates levels in excess of 5 ppm, leave the affected area immediately.

Only an approved detection device of sufficient sensitivity, such as the INTERSCAN or MIRAN, can be used to confirm a concentration of Vikane of 5 ppm or less. The INTERSCAN must be calibrated within one month prior to use as a clearance device. All other approved detection devices must be calibrated according to manufacturer recommendations. The concentration of Vikane must be monitored in breathing zones. Structure must remain posted for fumigation until cleared for reentry.

Select the appropriate procedure based on the fumigation rate:

All structures fumigated at 16 oz/MCF or less may be aerated using procedures 1 or 2.

All structures fumigated at concentrations greater than 16 oz/MCF must be aerated using procedure 2.

Aeration Procedure 1

These steps must be completed in sequence.

Step (1): Aerate structure with all operable windows and doors open, aided by the use of 1 or more fans, for a minimum of 1 hour. Total fan capacity, using one or more fans, shall be capable of displacing a total of 5,000 cfm.

Step (2): Secure structure and do not allow reentry for a minimum of 6 hours from the start of aeration (first opening of the seal). During this time structures must remain posted.

Step (3): After the minimum 6 hour waiting period, measure the concentration of Vikane in breathing zones of each room. If the concentration of Vikane is greater than 5 ppm, ventilate structure with operable doors and windows open for at least 10 minutes. Structure may be reoccupied when concentration is 5 ppm or less.

Aeration Procedure 2

These steps must be completed in sequence.

Step (1): Aerate structure with all operable windows and doors open, aided by the use of 1 or more fans, for a minimum of 1 hour. Total fan capacity, using one or more fans, shall be capable of displacing a total of 5,000 cfm.

Step (2): Secure the structure and do not allow reentry for a minimum of 8 hours from the start of aeration (first opening of the seal). During this time the structure must remain posted.

Step (3): After the minimum 8 hour waiting period, measure the concentrations of Vikane in breathing zones of each room. If the concentration of Vikane is greater than 5 ppm, ventilate structure with operable doors and window open for at least 10 minutes. Structure may be reoccupied when the concentration of Vikane is 5 ppm or less.

For more detailed information on the source and use of air monitoring devices or respirators, consult the Vikane Gas Fumigant Structural Fumigation Manual. Do not reoccupy fumigation site, i.e. building, ship, vehicle or chamber, or move vehicle until aeration is complete. Warning signs must remain posted until aeration is determined to be complete.

Warranty Disclaimer
