

PM 32

62719-4

10/17

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

20 SEP 1993

Jeffrey D. Pinkham, Ph.D.
DowElanco
9002 Purdue Road
Indianapolis, IN 42628-1189

Subject: Vikane
EPA Registration No. 62719-4
Structural Fumigation Fact Sheet and
Revised Aeration and Reentry Statements
Your Submission of September 2, 1993

Dear Dr. Pinkham:

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. Five copies of the finished labeling must be submitted before you release the product for shipment.

1. Page 13 of the submitted product labeling which contains new use directions for the aeration of fumigated passenger railway cars is unacceptable. As per discussions between DowElanco and the Deputy Chief of the Antimicrobial Program Branch, Walter Francis, these proposed use directions must be reviewed before being approved. In this regard, page 13 of the submitted product labeling containing these use directions is being deleted from the stamped, accepted labeling. A copy of the label, with page 13 intact, is being forwarded to the Health Effects Division for review.

2. The "Vikane (Sulfuryl Fluoride) Fact Sheet", enclosed with this submission and considered part of the subject product labeling, is being stamped as acceptable.

Please be advised that EPA is preparing to issue a Reregistration Eligibility Document for sulfuryl fluoride in the near future. Further labeling revisions may be required as part of the reregistration of your product.

CONCURRENCES

SYMBOL	H.75055						
SURNAME	Quaranta						
DATE	21 SEP 1993						

20/17

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

Sincerely,



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

3211

(Container Label)

RESTRICTED USE PESTICIDE DUE TO INHALATION TOXICITY

For sale to an use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicators certification.

ACCEPTED

with COMMENTS
in EPA Letter Dated:

26 SEP 1993

(Logo) DowElanco

Vikane* Gas Fumigant

Net Weight 125 lb

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 2719-4

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) and Vehicles including automobiles, buses, surface ships, rail cars, 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%
Inert Ingredients	1%

Precautionary Statements

Hazards to Humans and Domestic Animals

Keep Out Of Reach Of Children

DANGER POISON (SIGNAL WORD IN RED WITH SKULL AND CROSSBONES)

PELIGRO

Precaucion al Usuario: 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.)

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 is odorless. Exposure to toxic levels may occur without warning or detection by the user.

First Aid

In all cases of overexposure, such as nausea, difficulty in breathing, abdominal pain, slowing of movements and speech, numbness in extremities, get medical attention immediately. Take person to a doctor or emergency treatment facility.

If Inhaled: Get exposed person to fresh air. Keep warm and at rest. Make sure person can breathe freely. If breathing has stopped, give artificial respiration. Do not put anything in the mouth of an unconscious person.

If Liquid Is On Skin: Immediately apply water to contaminated area of clothing before removing. Once area has thawed, remove contaminated clothing, shoes, and other items covering skin. Wash contaminated skin area thoroughly or shower.

If Liquid Is In Eyes: Flush with plenty of water for at least five minutes. Get medical attention.

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Note to Physician: Vikane is a gas which has no warning properties such as odor or eye irritation. (However, chloropicrin is used as a warning agent and is a known lachrymator.) Early symptoms of exposure to Vikane are respiratory irritation and central nervous system depression. Excitation may follow. Slowed movement, reduced awareness and slow or garbled speech may be noted. Prolonged exposure can produce lung irritation, pulmonary edema, nausea and abdominal pain. Repeated exposure to high concentrations can result in significant lung and kidney damage. Single exposures at high concentrations have resulted in death. Treat symptomatically.

Liquid Vikane in the eye may cause damage due to refrigeration or freezing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions For Use carefully before applying.

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 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 Fumigation Manual.

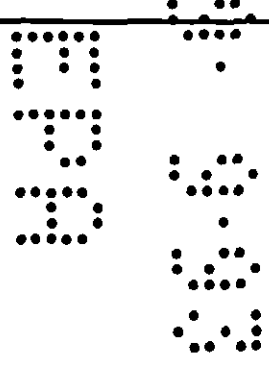
Cylinder and Product Disposal: Promptly return all empty cylinders to your distributor of Vikane. Follow proper cylinder handling directions above.

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.

ACCEPTED
with COMMENTS
in EPA Letter Docket

20 SEP 1993
Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg No.

62719-4



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Refer to attached label booklet for Directions for Use.

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

In case of emergency endangering health or the environment involving this product, call collect 517-635-4400.

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

EPA Reg. No. 62719-4

EPA Est. 464-CA-1

*Trademark of DowElanco

DowElanco • Indianapolis, IN 46268, U.S.A.

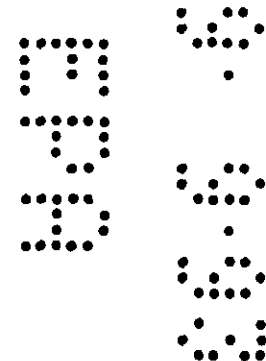
Specialty Gas Fumigant
Net Weight 125 lb

ACCEPTED
with COMMENTS
in EPA Letter Docket

20 SEP 1993

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

62719-4



68717

(Label Booklet)

RESTRICTED USE PESTICIDE DUE TO INHALATION TOXICITY

For sale to an use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicators certification.

(Logo) DowElanco

Vikane* Gas Fumigant

Net Weight 125 lb

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) and Vehicles including automobiles, buses, surface ships, rail cars, 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%
Inert Ingredients	1%

Keep Out Of Reach Of Children

**DANGER POISON (SIGNAL WORD IN RED WITH SKULL AND CROSSBONES)
PELIGRO**

Precaucion al Usuario: 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.)

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

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

In case of emergency endangering health or the environment involving this product, call collect 517-636-4400.

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

EPA Reg. No. 62719-4

EPA Est. 464-CA-1

*Trademark of DowElanco

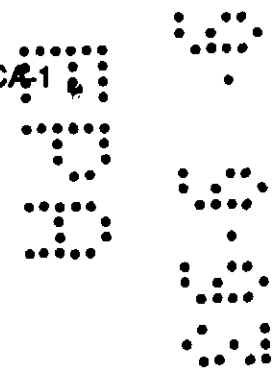
DowElanco • Indianapolis, IN 46268, U.S.A.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

20 SEP 1993

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

62719-4



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Precautionary Statements

Hazards to Humans and Domestic Animals

Keep Out Of Reach Of Children

DANGER POISON (SIGNAL WORD IN RED WITH SKULL AND CROSSBONES)

PELIGRO

Precaucion al Usuario: Si usted no lee Ingles, no use este producto hasta que la etiqueta le haya sido explicada amplamente.

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 is odorless. Exposure to toxic levels may occur without warning or detection by the user.

First Aid

In all cases of overexposure, such as nausea, difficulty in breathing, abdominal pain, slowing of movements and speech, numbness in extremities, get medical attention immediately. Take person to a doctor or emergency treatment facility.

If Inhaled: Get exposed person to fresh air. Keep warm and at rest. Make sure person can breathe freely. If breathing has stopped, give artificial respiration. Do not put anything in the mouth of an unconscious person.

If Liquid Is On Skin: Immediately apply water to contaminated area of clothing before removing. Once area has thawed, remove contaminated clothing, shoes, and other items covering skin. Wash contaminated skin area thoroughly or shower.

If Liquid Is In Eyes: Flush with plenty of water for at least five minutes. Get medical attention.

Note to Physician: Vikane is a gas which has no warning properties such as odor or eye irritation. (However, chloropicrin is used as a warning agent and is a known lachrymator.) Early symptoms of exposure to Vikane are respiratory irritation and central nervous system depression. Excitation may follow. Slowed movement, reduced awareness and slow or garbled speech may be noted. Prolonged exposure can produce lung irritation, pulmonary edema, nausea and abdominal pain. Repeated exposure to high concentrations can result in significant lung and kidney damage. Single exposures at high concentrations have resulted in death. Treat symptomatically.

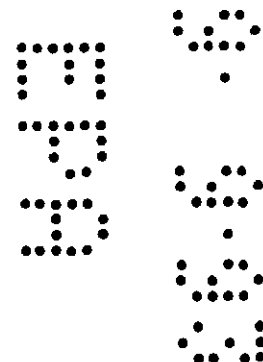
Liquid Vikane in the eye may cause damage due to refrigeration or freezing.

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with COMMENTS
in EPA Letter Dated:

20 SEP 1993

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

62719-4



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Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions For Use carefully before applying.

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 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 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 gas fumigant 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 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, two persons trained in the use of this product must be present at all times during introduction of fumigant, reentry prior to aeration, and during the initiation of the initial aeration procedure when exposure exceeds 5 ppm. 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, including fish and desirable growing plants. Remove mattresses (except waterbeds) and pillows completely enveloped in water proof covers or remove covers. Food, feed, drugs, and medicinals (including those items in refrigerators and freezers) must be removed from fumigation site or sealed in highly resistant containers such as glass, metal or double bagging with nylon polymer bags (such as Nylofume™, Fumebag™, or Reynolon HRF™. These protective bags are available only from distributors of this product).

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, planes, 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.

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 plastic, paper or taped sealed, seal adequately around doors, windows, vents, and other openings.

Chamber Fumigation

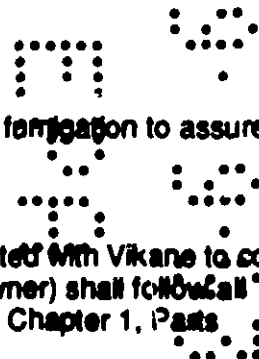
For chamber fumigation use a gas tight chamber with adequate circulation.

Construction Materials, Furnishings (Household effects) and Vehicles

Follow preparations as appropriate in above for chamber, taped jobs 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 applicable regulations including those listed in the Department of Transportation, Chapter 1, Parts



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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, of 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 present in the structure during fumigation. In order avoid direct exposure to the fumigant being released, chloropicrin must be used within the structure at least 5 to 10 minutes prior to introduction of the fumigant. Place a handful of cotton in a shallow container and set the container in the air stream of a fan. Pour chloropicrin over the cotton. Use 1 fluid oz/10,000 to 15,000 cubic feet - (30 ml/283 to 425 cubic meters) of space to be fumigated. 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, 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.

Protective Clothing

Wear goggles or full face shield for eye protection during introduction of the fumigant. Do not wear gloves or rubber boots. Do not reuse clothing or shoes that have become contaminated with liquid Vikane until thoroughly aerated and cleaned.

Respiratory Protection

If the concentration of Vikane in the fumigated area (as measured by a detector device with sufficient sensitivity such as an INTERSCAN or MIRAN gas analyzer) does not exceed 5 ppm (20 mg/cubic meter), no respiratory protection is required. When this concentration is exceeded, all persons in the exposed area must wear a NIOSH or MSHA approved positive pressure self-contained breathing apperatus (SCBA, not SCUBA) or combination air-supplied/SCBA respirator such as manufactured by Ranger, Survivair, Scott, or MSA. Before using any make or brand of SCBA, learn how to use it correctly. Determine that it has an adequate air supply for the job at hand, that it fits properly, providing an adequate seal around the face, and that it is in good working order. For more detailed information on the source and use of air monitoring devices and respirators, consult the Vikane Fumigation Manual.

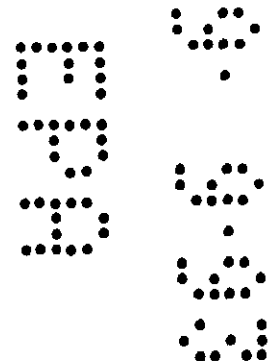
Prefumigation Check: Check for potential leaks.

ACCEPTED
with COMMENTS
in Field

20 SEP 1993

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

62719-4



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Dosage and Exposure Time

For fumigation to control drywood termites and non-egg stages of other insect and related structural and household pests, the Fumiguide* calculator(s) is to be used for the coordination of fumigant rates with soil or slab temperature, exposure period, and fumigant loss rate measured as half-loss-time (HLT). When control of the egg stage is desired or when fumigating for Formosan termites, use the indicated multiple factor of the drywood termite dosage (as determined by Fumiguides) for pests listed in the following table:

Pest	Dosage Factor (as a multiple of drywood termite dosage)
Rodents†	1/2X
Carpet Beetles†† and Cockroaches	1X
Furniture Carpet Beetles†† 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 one 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 Fumigation Manual for Vikane.

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 DowElanco.

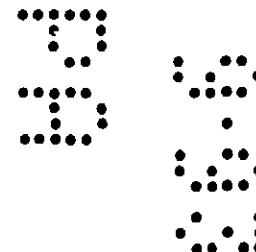
Introducing the Fumigant

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 psi. Direct the fumigant into the blast of air from a fan(s) having a capacity of at least 1,000 cfm for each pound of Vikane shot per minute. Damage to household materials can occur if insufficient fan capacity is used for the rate of Vikane shot. 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.

ACCEPTED
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in EPA Letter Docket

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62719-4



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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.

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. 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 Vikane concentration of 5 ppm or less. The Vikane concentration 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.

All structures fumigated at any concentration may be aerated using procedure 3.

Aeration Procedure 1

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

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

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

Aeration Procedure 2

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

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

Step (3): After the minimum eight hour waiting period, measure the Vikane concentrations in breathing zones. If the Vikane concentration is greater than 5 ppm, ventilate structure with operable doors and



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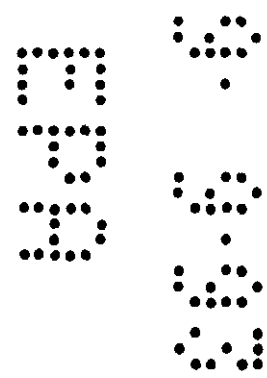
window open for at least ten minutes. Structure may be reoccupied when the Vikane concentration is 5 ppm or less.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

20 SEP 1993

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

02719-4



140417

Aeration Procedure 3

Preparation For Tarpaulin Fumigation:

Install power cords to provide a source of electricity at tarpaulin seam(s) where exhaust fan(s) will be placed to ventilate the structure prior to tarpaulin removal. The seam(s) near the exhaust fan(s) should be in location(s) where ventilated fumigant will not contact people or non-target sites. Placing ventilation fans prior to the fumigation is recommended. The ventilation and validation procedures which follows are required when using Aeration Procedure 3.

Ventilation Procedure:

Step (1): In tarped structures prior to tarpaulin removal, install exhaust fan(s) (minimum 3,000 cfm per fan) in tarpaulin seam(s) where ventilated fumigant will not contact people or non target sites. The person(s) installing fan(s) just prior to aeration must wear SCBA.

Step (2): Attach tubing or ducting, minimum 10 feet, in length to the exhaust side of the fan housing. Then vertically extend the tubing upward and attach the open end to the first story roof line or the tarpaulin seam in taller structures. Wrap or clamp the tarpaulin around the fan housing.

Step (3): After starting the exhaust fan(s) the tarpaulin will contract against the structure. Then, fold open a seam on the side of the structure opposite the exhaust fan(s) to create an air inlet. Remove ground seal (i.e. snakes) at the seam opposite the exhaust fan(s) and work toward exhaust fan(s). Next, remove remaining seam clamps on the side of the structure opposite exhaust fan(s) and work toward exhaust fan(s). The exhaust fan(s) can be turned off or removed prior to tarpaulin removal.

Validation Procedure:

Step (1): In tarped structures, follow the above ventilation procedures prior to tarpaulin removal.

Step (2): Aerate structure with operable doors and windows open and air circulation aided by the use of one or more fans. Turn on central air handling systems, if available and operable. If attic accesses are located inside the structure and can be opened, turn on the attic fan or position a fan to provide forced air circulation into the attic for a minimum of 15 minutes.

Step (3): Aerate until the concentration of Vikane is 3 ppm or less, as measured by a detector device with sufficient sensitivity such as an Interscan or Miran gas analyzer, in all rooms of the structure. The concentration of Vikane should be measured in the approximate center of each room with central air-handling system(s) and fan(s) turned off.

Step (4): Close operable doors and windows. Measure the concentration of Vikane in all bedrooms and at least 1 room on each floor. If bedrooms are not present, then measure the concentration of Vikane in at least one smaller room (such as bathroom) or a room which has more adsorptive material (such as stuffed furniture, storage containers) than other rooms.

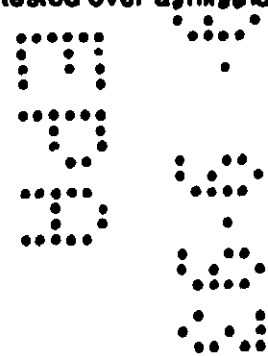
Step (5): After a minimum of 20 minutes with operable doors and windows closed, take another reading of the concentration of Vikane in the same rooms sampled in Step 4. If the concentration of Vikane has increased by more than 1 ppm over the reading taken in Step 4 in any room, wait another 20 minutes and re-test the same rooms tested in Step 4. If the concentration of Vikane is greater than 5 ppm in any room tested, ventilate the structure by opening doors and windows for at least 20 minutes and repeat Steps 4 and 5.

The structure is cleared for re-entry when Validation Steps 1-5 are completed, and the concentration of Vikane is 5 ppm or less and has not increased by more than 1 ppm in any room tested over a minimum 20 minute waiting period.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

2 1 1993
Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.

62719-4



150411

Warranty Disclaimer

DowElanco warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. DOWELANCO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by Buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

- 1. Refund of purchase price paid by buyer or user for product bought, or
- 2. Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of DowElanco or the seller is authorized to vary or exceed the terms of the Warranty. Disclaimer or this Limitation of Remedies in any manner.

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Revised Reformatted: 9/2/92

Revisions:

- 1) Added requirement for double bagging of food and medicinals.
- 2) Reinforcement of chloropicrin as a warning agent.

2/22/93

- 3) Warning Agent: Revised language describing chloropicrin as a warning agent prior to fumigation.

3/1/93

- 4) At EPA direction, added "Aeration Procedure 3" to main product label.

8/6/93

- 5) Modified "If on skin" statement in First Aid section.
- 6) Minor editing of label text.
- 7) Added aeration procedures for railcars.

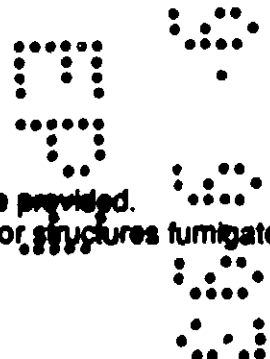
08/30/93

- 8) General Information: Clarified when to whom the Fact Sheet for Vikane must be provided.
- 9) Aeration and Reentry: Added statement allowing use of aeration procedure 3 for structures fumigated at any concentration.

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FACT SHEET FOR VIKANE* (SULFURYL FLUORIDE)

In the interest of DowElanco's commitment to product stewardship, this fact sheet is intended to provide basic information about the product and how it is used. If you have additional questions about Vikane or the procedures described, call the DowElanco Customer Information Service at 1-800-352-6776.

WHY BUILDINGS ARE FUMIGATED

Insects that feed or tunnel into wood can seriously damage houses, apartments, and other dwellings or structures. Each year termites or other wood destroying insects damage approximately 2 million homes. Depending on the extent or location of the infestation, fumigation is the only total control method proven to eliminate certain infestations of wood destroying insects

HOW BUILDINGS ARE FUMIGATED

Because Vikane is a gas, prior to fumigation the structure is completely sealed. This serves to contain Vikane in the building so it can penetrate wood thoroughly and eliminate the pests. Depending on the construction of the building, the doors and windows may be sealed with tape and a plastic sheet, or the structure may be covered with a tarp. The building will remain sealed for 4-72 hours depending on the specifics of the job. Warning signs are posted around the building notifying people to keep out.

After the tarp or tape is removed, a professional fumigator will aerate the structure by opening the doors and windows. Fans may also be used to clear out the building. Once the dwelling has been thoroughly aerated, the fumigator is required to measure the level of any fumigant remaining in the living space to ensure it is below the EPA approved concentration for reentry by the occupants. Extremely low levels of fumigant can remain for a short period of time in dead air spaces between walls and inside cabinets as well as porous materials such as furniture. The small amount of fumigant in these areas will continue to dissipate for a few hours after the fumigation but at levels well below the established safe reentry concentration. Your building should not be cleared for reoccupancy until it is safe to enter. The fumigator will post a notice on your building indicating the day and time for reentry. Structures can be occupied only when the concentration is 5 parts per million or less (this represents a margin of safety - laboratory animals have been exposed to 100 parts per million for 2 weeks with no adverse effects.) Because Vikane is a true gas and not a vapor, aeration is rapid. Recent studies demonstrated that in most structures levels are less than 1 part per million within 6 hours of clearing and have no detectable levels of Vikane within 24 hours after the start of aeration.

*Trademark of DowElanco

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20 SEP 1989
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Sulfuryl fluoride is a colorless, odorless gas, so a warning agent is added to the building which causes watery eyes and a scratchy throat. If you experience these symptoms in a structure that has been recently fumigated, you should leave immediately and call the pest control company to have your building retested.

SULFURYL FLUORIDE (POTENTIAL HEALTH RISKS FROM OVEREXPOSURE)

Sulfuryl fluoride is a gas and can potentially enter your body only through inhalation. Because it is a gas, it does not stay on dry surfaces, therefore, there is no exposure from touching treated surfaces.

Nervous system and respiratory irritation:

Overexposure to high levels of sulfuryl fluoride can result in nose and throat irritation and nausea. At high concentrations (such as those used during the fumigation) it can cause excess fluid in the lungs, sleepiness, pneumonia, and convulsions. These symptoms would be expected to appear within 8 hours after such an exposure. In the unlikely event you experience these symptoms in a building that has been recently fumigated, you should leave immediately. Consult your physician and call the pest control company to have your building retested.

Additional studies:

Sulfuryl fluoride has not been shown to cause birth defects in pregnant animals exposed under experimental conditions. In addition, current studies have demonstrated there are no mutagenic or genotoxic effects caused by exposure to sulfuryl fluoride.

SAFETY PRECAUTIONS AND HOMEOWNER PREPARATION

- Discuss the treatment program in advance with your 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 what items to remove from your building.
- Stay out of the treated building until it is cleared for reentry.
- If you are interested or concerned, you should ask your pest control company to show the records of how your building was aerated before it was cleared for reentry.
- You may wish to increase ventilation by opening doors and windows.

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YOUR DATE
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Call DowElanco Customer Information Service at 1-800-352-6976 if you need additional information or have questions concerning the product.

