

# Specimen Label



**Only for sale to and use by registered pest control operators**

**Reg. No. L10394 Act No. 36 of 1947**

For sale to and use only by South African licensed fumigators trained under Douglas Products' approved training. An applicator licensed by South Africa must be present on site at all times during introduction of fumigant, reentry prior to aeration, and initiation of aeration procedure.

#### Active Ingredient:

Sulphuryl fluoride .....	99.8%
Inert Ingredients.....	<u>0.2%</u>
Total.....	100.0%



**Net mass: 56.7 kg**

#### REGISTERED BY:

**Afrifume (Pty) Ltd**

**CO. REG. NO. 2014/261000/07  
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TEL +27 72 348 7141 FAX +27 86 559 1665**

**® TM Trademark of Douglas Products and Packaging Co., LLC.**

Made in the USA



**UITERS GIFTIG  
VERY TOXIC**

#### FIRST AID TREATMENT

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

**If inhaled:** Move person to fresh air. If person is not breathing, call for an ambulance, then give artificial respiration, using chest compressions, mouth-to-mouth, or other medically recommended resuscitation procedure. Call a poison control center or doctor for further treatment advice.

**If liquid on skin or clothing:** May cause frostbite to unprotected skin upon contact with the liquid ProFume during introduction. Immediately apply water to contaminated area of clothing before removing. Once area has thawed, remove contaminated clothing, shoes, and other items covering skin. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**If liquid in eyes:** May cause "cryogenic burn" if exposed. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Liquid ProFume in the eye may cause damage due to refrigeration or freezing. Call a poison control center or doctor for treatment advice.

#### NOTE TO PHYSICIAN

ProFume is a gas that has no warning properties such as odor, color, or eye irritation. Early symptoms of exposure to ProFume 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.

Have the product label or Application Booklet with you when calling a poison control center or doctor, or going for treatment.

#### In case of emergency endangering health or the environment involving this product, call:

Tygerberg Poisoning Information Centre: (021) 931 6127

Red Cross Poisoning Information Centre: (021) 689 5227

Griffon Poison Information Centre: 082 446 8946

#### 24 HOUR EMERGENCY NUMBER

082 446 8946 — +1 352 323 3500

#### INSTRUCTIONS FOR USE

The product can only be applied by a Registered Pest Control Operator with Bag, Bulk and Structural Fumigation certification from the Registrar of Act No. 36 of 1947 AND who have received training and approval to handle, apply and transport the product from Douglas Products and Packaging Co., LLC. Do not apply this product without first computing the dose to be applied with the. The Fumiguide™ Program and the Fumiguide Calculator are only available from Douglas Products and Packaging Co., LLC to personnel who have received training

and approval to handle, apply and transport the product. The Fumiguide™ Program and the Fumiguide Calculator must be used to calculate any dose of ProFume® fumigant for each unique application and situation. Additional instructions for the use of ProFume are included in the Applicator's Booklet. The booklet is considered part of the label and all instructions must be followed. The booklet should be read before this product is used.

**Any use of the product outside of these conditions is strictly forbidden.**

**TARGET PESTS**

The table below contains examples of target pests. Contact the product distributor if you have questions regarding efficacy against pests not listed below or in the Fumiguide.

Beetles:	Confused Flour Beetle ( <i>Tribolium confusum</i> ), Red Flour Beetle ( <i>Tribolium castaneum</i> ), Sawtoothed Grain Beetle ( <i>Oryzaephilus surinamensis</i> ), Warehouse Beetle ( <i>Trogoderma variabile</i> ), Hide Beetle ( <i>Dermestes maculatus</i> ), Drugstore Beetle ( <i>Stegobium paniceum</i> ), Rusty Grain Beetle ( <i>Cryptolestes ferrugineus</i> ), Cigarette Beetle ( <i>Lasioderma serricorne</i> ), Dried Fruit Beetle ( <i>Carpophilus hemipterus</i> ), Foreign Grain Beetle ( <i>Ahasverus advena</i> ), Granary Weevil ( <i>Sitophilus granarius</i> ), Rice Weevil ( <i>Sitophilus oryzae</i> ), Lesser Grain Borer ( <i>Rhyzopertha dominica</i> ), Cowpea Weevil ( <i>Callosobruchus maculatus</i> ), Bean Weevil ( <i>Acanthoscelides obtectus</i> ), Powderpost Beetles ( <i>Lyctus planicollis</i> , <i>Lyctus brunneus</i> ), Old House Borer ( <i>Hylotrupes bajulus</i> ), Deathwatch Beetles (e.g., <i>Hemicolus gibbicollis</i> ), Furniture Carpet Beetle ( <i>Anthrenus flavipes</i> ), Carpet Beetles (e.g., <i>Anthrenus scrophulariae</i> ), etc.
Moths:	Indian Meal Moth ( <i>Plodia interpunctella</i> ), Mediterranean Flour Moth ( <i>Ephestia kuehniella</i> ), Cocoa Moth ( <i>Ephestia elutella</i> ), Almond Moth ( <i>Ephestia cautella</i> ), Codling Moth ( <i>Cydia pomonella</i> ), Navel Orangeworm ( <i>Amyelois transitella</i> ), etc.
Termites	Drywood Termites ( <i>Incisitermes</i> spp., <i>Cryptotermes cavifrons</i> , <i>Kalotermea approximatus</i> , etc.), <i>Coptotermes formosanus</i> , <i>Reticulitermes</i> spp., etc.
Cockroaches	American Cockroach ( <i>Periplaneta americana</i> ), German Cockroach ( <i>Blattella germanica</i> ), Brown-banded Cockroach ( <i>Supella longipalpa</i> ), etc.
Bed Bugs	<i>Cimex lectularius</i>
Spiders	Black Widow ( <i>Latrodectus hesperus</i> ), Brown Recluse ( <i>Loxosceles reclusa</i> )
Rodents	Rats ( <i>Rattus</i> spp.), Common House Mouse ( <i>Mus musculus</i> ), Deer Mouse ( <i>Peromyscus maniculatus</i> ), etc.

Notice: Before using this product, read Warranty Statement and Conditions for Sale. If terms are unacceptable, return at once unopened.

**PROHIBITION / WARRANTY STATEMENT:**

It is a violation of South African rules and regulation to use this product in a manner that is inconsistent with its label. No warranty of any kind expressed or implied is made concerning the use of this product. User assumes all risks arising from its use and application.

**CONDITIONS FOR SALE:**

**Buyer or user is responsible for any loss or damage resulting from misuse or negligence in handling, storage or use of this product. The supplier will not accept responsibility whatsoever whether in contract or for any loss or damage including consequential loss arising out of the use of this product other than the responsibility for the quality of the product at the time product is supplied and such responsibilities required by statutes applicable to this sale.**

For control of rodents, insects, spiders and other invertebrate pests.

Sites to be fumigated: Residential and non-residential structures, non-food commodities and select food commodities, construction materials, furnishings, equipment, food handling establishments (e.g., pet food facilities, bakeries, food production facilities, mills, warehouses, etc.), stationary transportation vehicles (railcars, shipping containers, trucks, cars, busses, passenger trains, etc., excluding aircraft), temporary and permanent fumigation chambers, and storage structures.

Read the instructions in the supplied Application Booklet before using product when fumigating, all local, regional, and national rules and regulations regarding use of detection devices, positive-pressure self-contained breathing apparatus, security requirements, and placement of warning signs must be observed.

**DIRECTIONS FOR USE**

**Read the instructions in the supplied label and Application Booklet before using product.**

Do not apply this product without first computing the dosage to be applied using the Fumiguide or Fumiguide Calculator. The Fumiguide, available from Douglas Products and Packaging Co., LLC., must be used to calculate the dosage of ProFume.

**WARNINGS**

Sulfuryl fluoride is a colorless, odorless toxic gas. ProFume cylinders are under pressure and must not be stored near heat or open flame. Under high heat conditions (temperatures above 400°C), ProFume can decompose into sulfur dioxide (SO<sub>2</sub>), hydrogen fluoride (HF), and other decomposition products. With available moisture, HF forms hydrofluoric acid which is highly reactive and can corrode or damage many materials including metals, glass, ceramic finishes, fabrics, etc. Sulfuryl fluoride can react with strong bases (pH>10).

Sulfuryl fluoride is a highly toxic gas. Do not expose non-target organisms. This pesticide is toxic to fish and wildlife.

**STORAGE AND HANDLING**

Do not contaminate water, food, or feed by storage.

Store in a dry, cool, well-ventilated, secured and locked area. Storing indoors in occupied areas in buildings is not recommended. Post as a pesticide storage area. All cylinders (full, partially full, or empty) should be stored in an upright (vertical) position with safety caps and protective bonnets securely in place. Secure ProFume cylinders to prevent being knocked over during storage, transport, weighing, and fumigant release. Secure in a manner that does not deface the label.

**Transportation of Cylinders:** It is recommended to transport cylinders using hand truck or fork truck to which the cylinder can be firmly secured. Transport cylinders only when safety caps and protective bonnets are installed on the valve assembly and cylinders are secured in the vehicle to prevent excessive movement. All appropriate local, regional and national rules and regulations for transport of compressed gas cylinders and /or hazardous materials must be followed. **Do not** transport cylinders in closed vehicles where the same

common airspace is occupied by personnel. When on public roads, transport securely only in an upright position.

**Never** transport cylinders containing ProFume® fumigant by aircraft.

During transport, special care must be taken to prevent rough handling or mechanical shock such as dropping, bumping, dragging, or sliding. Never suspend or lift cylinders by the valve.

**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, fully close the valve, and replace the safety cap and protective bonnet before returning to the distributor of ProFume. Only Douglas Products and Packaging Co., LLC. is authorized to refill cylinders. Do not use cylinders for any other purpose.

**Leak Procedures:** Evacuate immediate area of leak to a distance where the concentration of sulfuryl fluoride is below 3 ppm. 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, Draeger, Survivair, Scott, or MSA, for entry into affected areas to correct problem. Do not wear gloves or rubber boots.

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 3 ppm or less, as determined by an approved detection device with sufficient sensitivity.

**Disposal:** Empty cylinders **MUST** be returned to your supplier/distributor. Cylinders remain the property of Douglas Products and Packaging Co. LLC.

## **PRECAUTIONS**

### **REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE)**

No specific PPE is required when handling or transporting cylinders.

Eye Protection, either chemical-resistant splash-resistant goggles or a full-face shield, must be worn by the individual releasing the gas during gas introduction.

Do not wear gloves or rubber boots when using the product.

Do not reuse clothing or shoes that have become contaminated with liquid ProFume until thoroughly aerated and cleaned.

When entering a fumigated area after introduction of the gas, if the concentration of ProFume in the fumigated area as measured by an approved detection device does not exceed 3 ppm in the breathing zones, no respiratory protection is required. If the concentration of ProFume in the fumigated area exceeds 3 ppm in the breathing zones or is unknown, all persons in the exposure area must wear NIOSH or MSHA approved positive pressure self-contained breathing apparatus (SCBA not SCUBA) or combination air-supplied/SCBA respirator such as manufactured by Ranger, Draeger, Survivair, Scott or MSA.

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Danger. Fatal If Inhaled. Liquid Causes Irreversible Eye Damage. Liquid Causes Freeze Burns of Exposed Skin. May Be Fatal If Swallowed.

Do not breathe vapor. Do not get liquid in eyes, on skin, or on clothing. ProFume is odorless and colorless. Exposure to toxic levels may occur without warning or detection by the user.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is a violation of South African rules and regulation to use this product in a manner that is inconsistent with its label. The user assumes the risk to persons or property that arises from any such use of this product.

### **FOR USE ONLY BY PEST CONTROL OPERATORS MEETING APPLICABLE SOUTH AFRICAN LICENSING/CERTIFICATION REQUIREMENTS, AND WHO ARE TRAINED BY DOUGLAS PRODUCTS AND PACKAGING CO., LLC (DOUGLAS PRODUCTS) IN THE USE OF THIS PRODUCT.**

This product is accompanied by an approved label and an Application Booklet. **READ AND UNDERSTAND THE ENTIRE LABELLING.**

### **RESTRICTED USES GENERAL INFORMATION**

Before using, carefully read and understand all label precautions and directions. ProFume is a highly hazardous material and should be used only by individuals knowledgeable of its chemical hazards and trained in the use of required respiratory equipment, detection devices, emergency procedures, and proper use.

### **GENERAL USE PRECAUTIONS**

When used for fumigation of enclosed spaces, two persons trained in the use of ProFume, at least one meeting applicable South African licensing/certification requirements, must be present at all times during introduction of fumigant, reentry prior to aeration, and initiation of the aeration procedure. Two persons need not be present while monitoring from outside of the fumigated structure.

No one shall be in fumigated structures if the level of ProFume is unknown or above 3 ppm unless wearing 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:** When in the fumigated area during the aeration procedure, approved respiratory protection must be worn until concentration of ProFume is confirmed not to exceed 3 ppm with an approved detection device.

Only a detection device of sufficient sensitivity and approved by Douglas Products, such as the INTERSCAN (Model GF 1900), M.A.C. 2640 CLIRcheck, or SF-ExplorIR, can be used to confirm a concentration of ProFume of 3 ppm or less. All approved detection devices must be calibrated according to manufacturer recommendations. The concentration of ProFume must be monitored in breathing zones (areas where individuals commonly sit, stand or lie down) using an approved detection device. The structure or enclosure must remain posted for fumigation until cleared for reentry.

### **DIRECTIONS FOR USE**

#### **Sites To Be Fumigated**

The following sites may be fumigated using ProFume: Residential and non-residential structures, non-food commodities and select food commodities, construction materials, furnishings, equipment, food handling establishments (e.g., pet food facilities, bakeries, food production facilities, mills, warehouses, etc.), stationary transportation vehicles (railcars, shipping containers, trucks, cars, busses, passenger trains, etc., excluding aircraft), temporary and permanent fumigation chambers, and storage structures.

## Dosage and Exposure Time

The target dosage is the product of fumigant Concentration x Exposure Time (CT). The Fumiguide™ program (Fumiguide) and Fumiguide calculator (Fumiguide) must be used to calculate the required dosage for specific fumigation scenarios. Exception: When ProFume® fumigant is used for quarantine/regulatory purposes according to a treatment schedule for sulfuryl fluoride specified by a regulatory authority, the Fumiguide is not required for dosage calculation. The maximum target dosage for food commodities is 1500 CT. All other fumigations may exceed the 1500 CT limit.

The target dosage is calculated by entering job specific parameters such as target pest, life stage to be controlled, and temperature into the Fumiguide. Based on the calculated target dosage, exposure time, HLT, and volume of the area to be fumigated, the Fumiguide will calculate the amount of ProFume to be initially introduced.

Monitoring concentrations of ProFume within the fumigated area is desired for fumigation accuracy. When monitoring, take gas concentration readings from the exposure area with a monitoring device such as a Fumiscope (Model D), PROcheck or Spectros 400. Input monitoring readings into the Fumiguide to calculate the actual HLT. The Fumiguide will then calculate any additional amount of fumigant and/or increase in exposure time necessary to achieve the target dosage.

## Commodities That Can Be Fumigated

The raw agricultural and processed food commodities that may be fumigated with ProFume include:

Almond	Oat
Barley	Other dried fruits (e.g., apricots)
Beech nut	Peanut
Beef, dried	Pecan
Butternut	Pinenut
Cashew	Pistachio
Cheese	Popcorn
Chinquapin	Prunes (dried)
Cocoa bean, post-harvest	Raisins
Coconut	Rice
Coffee bean, post-harvest	Rice, bran
Corn	Rice, flour
Corn flour	Rice, hulls
Corn grits	Rice, polished
Corn meal	Sorghum
Cotton seed, post-harvest	Triticale
Date (dried)	Vegetable, legume (dried)
Eggs (dried)	Walnut
Fig (dried)	Wheat
Filbert	Wheat, bran
Ginger, roots, post-harvest	Wheat, flour
Ham	Wheat, germ
Herbs and spices	Wheat milled by-products
Hickory nut	Wheat, shorts
Macadamia nut	Wild rice
Millet	
Milk, powdered	

ProFume can be used to fumigate seeds of foods listed above. Other seeds may be fumigated as long as the fumigated seeds are not for direct human consumption and are used for other purposes, such as for propagation. Fumigate a small amount of the seed hybrid/ variety with ProFume to evaluate the potential effect on seed germination and vigor prior to large-scale fumigation.

Facility fumigations primarily target pests infesting food handling establishments (e.g., pet food facilities, bakeries, food production facilities, mills, warehouses, etc.). Prior to a facility fumigation, special care should be taken to minimize quantities of processed foods, not found on the above list of commodities that can be fumigated, by exclusion or removal from the space to be fumigated. Exclusion from the space to be fumigated is achieved by storage in plastic, glass, or metal bottles, cans, or jars with the original manufacturer's air-tight seal intact or in sealed, pressurized containers, or by using other means demonstrably effective in preventing exposure of the processed food to the fumigant.

**NOTE:** Processed food in facilities not practical to exclude or remove prior to fumigation may undergo incidental fumigation with ProFume during a facility fumigation.

No direct fumigation of processed foods is permitted in stationary transportation vehicles, temporary and permanent fumigation chambers, and free-standing storage structures not contained inside a food handling establishment unless the processed food is found on the list of commodities that can be fumigated, or can be excluded from the space to be fumigated as described above. ProFume may be used for treatment of non-food commodities such as: forest and plant products, such as logs, lumber, firewood, wood packaging materials, dunnage, wood chips, mulch, paper products, bamboo, wicker, dried vines, plants and flowers for ornamental use; processed and unprocessed cotton, wool, burlap, other fibers or cloth; feathers, processed and unprocessed human and animal hair; leather products, animal hides, fur; and soil-contaminated non-food cargo, such as wood construction debris.

ProFume may be used for quarantine/regulatory purposes as specified by a regulatory authority, such as local, regional, national, or international authority, for treatment of raw agricultural commodities, processed commodities, and non-food and/or non-feed commodities and goods. Follow requirements for dosage rates, treatment periods, monitoring, and other procedures specified by the authority responsible for the treatment schedule. Douglas Products assumes no risk or liability for loss or damage from fumigations performed for quarantine/regulatory purposes.

## Preparation for Fumigation

All persons, non-target animals, and desirable growing plants must be removed from the space to be fumigated. When monitoring, place gas sampling lines at representative areas within the fumigated space. Use re-circulation fans as appropriate to rapidly disperse fumigant throughout the structure or enclosure.

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 ProFume. Opened items that do not need to be removed or sealed in Nylofume bags include dental hygiene products (including toothpaste, mouthwash, dental adhesives, and dental whitening products), cosmetics including lipstick, all externally applied lotions and ointments. Exception: For fumigation of food and feed in food

handling establishments, stationary vehicles for transporting commodities (railcars, shipping containers, trucks, etc., excluding aircraft), temporary and permanent fumigation chambers, and storage structures, follow the directions in the above section "Commodities that can be Fumigated."

For mattresses (excluding waterbeds) and pillows completely enveloped in waterproof coverings, do one of the following: 1) open the seal of the water proof covering or 2) remove the mattress or pillow from the space to be fumigated if the waterproof covering cannot be opened. Mattresses and pillows with waterproof coverings containing built-in vents designed to permit air passage are considered to have an open seal to the waterproof covering and can remain as-is in the fumigated space.

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 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 must be opened when clearing the structure until the concentration of ProFume® fumigant in them is 3 ppm or less.

**Note:** All flames, including pilot lights, must be extinguished. All electrical heating elements must be turned off or unplugged.

### Connected Areas

A connected area is defined as any area connected with the space to be fumigated by construction elements that may allow passage of fumigant between the spaces. Any connected area must be vacated during the fumigation process.

ProFume concentration levels must be measured in any connected space or structure during the fumigation. Use only an approved detection device of sufficient sensitivity, such as the INTERSCAN (Model GF 1900), M.A.C. 2640 CLIRcheck, or SF-ExplorIR to confirm a concentration of ProFume of 3 ppm or less.

**Note:** Connected areas must be vacated and that area shall be considered as a fumigated space, and all applicable rules, regulations and label instructions apply, such as preparation, posting, securing, and aeration.

### Multi-Unit Structures

When fumigating a single unit/room within a larger structure (such as townhouses, 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.

### Posting of Fumigated Areas

The applicator must post all entrances and all sides of the structure or enclosure to be fumigated with warning signs bearing the statements:

- The signal word DANGER and the SKULL and CROSSBONES symbol in red.
- The statement, "Area under fumigation, DO NOT ENTER."
- This sign may only be removed after the structure is aerated to less than a concentration of 3 ppm of fumigant.
- The date and time fumigation began and fumigation is completed.
- Name of fumigant used.
- Name, address, and telephone number of the fumigation company and licensed/ certified applicator.

Post warning signs at all entrances to a fumigated area and all sides of the structure to be fumigated. Warning signs should be placed in advance of the fumigation in order to keep unauthorized persons away. Do not remove a warning sign until the treated structure is aerated down to a fumigant concentration of 3 ppm or less. Only a licensed/certified applicator may authorize removal of warning signs. The warning signs may be removed only when the concentration of ProFume within the treated area is below exposure standards for reentry.

### Sealing Instructions

The area or structure to be fumigated must be sealed prior to introduction of the gas. The two most commonly used methods are:

- Tape and seal: used primarily for structures of stucco, brick masonry block, concrete and metal construction. These spaces/structures can be adequately sealed with plastic, paper, or tape, placed around doors, windows, vents, and other openings.
- Tarp: used for a wide variety of structures and situations. Tarps cover the entire fumigated space and are sealed to the ground using sand, soil or water. Tarps must be made of material able to confine ProFume for the required time, such as 4-6 mils (100-150 microns) polyethylene, laminated polyethylene, vinyl coated nylon, neoprene coated nylon, and polyvinylchloride (PVC) coated nylon.

Conduits, pipes, ducts or other features that allow fumigant to escape outside of the fumigated space also must be sealed.

To minimize escape of gas through the soil and to avoid injury to nearby plants, wet the soil, (if not sufficiently moist,) around the structure to act as a barrier for the gas.

### Securing Structure Entrances

Seal and placard all exterior doors or doorways with warning signs. Only the South African licensed applicator and personnel directly under their supervision can have access to the fumigated space. To secure structures against unauthorized entry during the fumigation exposure period, a locking device or barricade must be used on all operable exterior doors or doorways. A locking device or barricade must be effective in preventing entry of any exterior door or doorway using normal opening or entering processes by anyone other than the South African licensed applicator in charge of the fumigation or persons in his/her on-site direct supervision. The use of guards is required at the fumigated site during fumigation and aeration.

### Introducing the Fumigant

- Do Not allow untrained individuals to apply or use ProFume.
- Do Not apply when the temperature within the commodity or at the site of the pest is below 5°C (exception is when the only target pests are rodents).
- Do Not apply to any commodity, empty containers, railcars, or other transportation vehicle that is likely to be in transit during the exposure or ventilation period.
- Do Not connect cylinders to introduction equipment until all fumigation warning signs have been posted and the space to be fumigated is cleared of people and non-target animals and is secured.
- Do Not allow unlicensed individuals to stand near the cylinder and introduction equipment while gas is being discharged.
- Do Not handle the cylinder or metal components of the introduction equipment while gas is being discharged. Doing so will result in frostbite.
- Eye Protection, either chemical-resistant splash-resistant goggles or a full-face shield, must be worn by the individual releasing the gas during gas introduction.

The amount of ProFume® fumigant to be introduced is calculated using the Fumiguide™ Program. Measure the kilograms of ProFume introduced using equipment such as weighing scales. Platform or hanging scales can be used to weigh the cylinder containing ProFume during fumigant introduction to determine the kilograms of fumigant introduced. If hanging scales are used, hanging bonnets or similar devices designed for this purpose must be used to hang the cylinder from the scale. Do not use the valve to lift or hang the cylinder.

Release the fumigant through a suitable leakproof hose with a minimum burst pressure of 3450 kPa (500 psi). The hose should be flexible, kink resistant, durable and compatible with liquid ProFume. Prior to use, confirm with distributor or manufacturer that the introduction hose meets the above requirements. The introduction rate is controlled by the inside diameter and the length (resistance) of the fumigant introduction hose. Flow rates are calculated using the Fumiguide. The final 1-3 kilograms of ProFume in a cylinder generally are in a gaseous state and will move through the introduction hose more slowly than will the liquid fumigant. Testing by Douglas Products has determined that it can take up to 20 minutes at 24°C (air temperature) to release the last kilogram of sulfuryl fluoride from a compressed gas cylinder.

To prevent damage, do not apply liquid fumigant directly to any surface within the fumigation area. Protective sheeting, such as polyethylene plastic, can be placed under the hose and introduction fan to further protect floors and other materials during application from potential moisture condensation. An introduction fan of sufficient strength should be used at each introduction site to ensure condensation formation is minimized. Fans must have a minimum capacity of at least 28 m<sup>3</sup>/minute (1000 ft<sup>3</sup>/minute) per 0.5 kg introduced. More than one fan per introduction site may be used to obtain this capacity. Introduction hoses should be attached to the introduction fan directly or to an introduction stand so that the gas is released into the air stream.

### Fumigation Restrictions

- In-transit vehicles loaded or unloaded may not be fumigated with ProFume. Fumigation of empty or loaded containers, railcars, surface ships and other transport vehicles or vessels may be fumigated as any other storage facility if they are stationary for the entire fumigation process including aeration.
- Submarines and other below-the-surface ships may not be fumigated with ProFume.
- Airplanes may not be fumigated with ProFume.
- For normal atmospheric pressure (NAP) fumigations of food commodities, do not exceed a maximum cumulative dosage of 1500 CT (g-h/m<sup>3</sup>).
- For vacuum fumigations, do not exceed a maximum cumulative dosage of 200 CT.
- When fumigating storage tanks, silos, etc. containing bulk flour, empty or draw down flour to less than 1 m (3 feet) deep. To prevent excessive residues in flour, minimize quantities of flour in the processing plant, structure or enclosure prior to fumigation.

### AERATION, CLEARING AND REENTRY

#### Aeration

Two persons trained in the use of this product, at least one being a South African certified applicator, must be present on site at all times during introduction of the fumigant, reentry prior to aeration, initiation of the aeration procedure, when testing for reentry after aeration (if aerated in an enclosed space) and during reentry. After fumigation, it is essential no occupant reenter the structure until the fumigant has been aerated and the space has been fully tested and cleared for reentry.

**For fumigation of food handling establishments, temporary and permanent fumigation chambers, and**

**storage structures:** Aerate the enclosure or structure using passive or active ventilation methods. To ensure workers and bystanders are not exposed to concentrations that exceed exposure standards for reentry, direct the aeration gasses upward, control the ventilation process using fans or existing exhaust systems, monitor concentrations of ProFume around the fumigated enclosure or structure, or prohibit entry into the area.

**For all other Building Fumigations** (residences, schools, hotels, hospitals, churches, museums, restaurants, retail stores, etc.), the following aeration procedure must be followed. Total aeration time will vary depending on the initial concentration of ProFume used. Steps must be followed in sequence.

**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. Total fan capacity must be 142 m<sup>3</sup>/minute (5000 cfm) or greater. More than one fan may be used to achieve the required air displacement. During the initial one-hour aeration procedure, approved respiratory protection must be worn until the concentration of ProFume is confirmed not to exceed 3 ppm with an approved detection device.

**Step (2) IF the fumigation was conducted using 16g/m<sup>3</sup> or less:** 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.

**IF the fumigation was conducted using more than 16g/m<sup>3</sup>:** Secure 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 structures must remain posted.

**Step (3):** After the minimum 6 or 8 hour waiting period, measure the concentration of ProFume in breathing zones of each room. Breathing zones are defined as areas within the structure where individuals typically stand, sit or lie down. If the concentration of ProFume is greater than 3 ppm, further aeration and re-testing are required. If the concentration of ProFume is greater than 3 ppm, ventilate structure with operable doors and windows open and confirm concentrations are 3 ppm or less before the structure is reoccupied.

#### **For Chambers, Surface Ships and Not In Transit Vehicles (trailers, containers, nonpassenger railcars, etc.) fumigations:**

Active ventilation methods must be utilized. To ensure workers and bystanders are not exposed to concentrations that exceed exposure standards for reentry, direct the aeration gasses upward, control the ventilation process using fans or existing exhaust systems, monitor concentrations of ProFume around the fumigated enclosure or structure, or prohibit entry into the area.

#### **For Passenger Railcars:**

##### **Aeration Procedure 1**

If on-board railcar ventilation systems are not operable, aerate railcar for a minimum of 6 hours using the following procedure:

**Step (1):** Remove all tape, seals, and/or tarps.

**Step (2):** Open all exterior railcar doors and all internal doors such as cabinets, closets, appliances and sleeping berths.

**Step (3):** In sleeper cars, turn all mattresses askew to expose cavities beneath sleeping berths.

**Step (4):** Ventilate the railcars for a minimum of 1 hour with enough portable fans to provide a minimum 113 m<sup>3</sup>/minute (4000 cfm) capacity per floor. Direct fans in such a manner to create cross-ventilation of railcar.

**Step (5): Clearance Testing:** After the minimum 6-hour aeration time, railcars may be reoccupied when the concentration of ProFume is 3 ppm or less with all doors and

windows closed and ventilation systems turned off as measured by an approved detection device.

## **Aeration Procedure 2**

If on-board railcar ventilation systems are operable, actively ventilate the railcar for a minimum of 2 hours using the following procedures:

**Step (1):** Remove all tape, seals, and/or tarps.

**Step (2):** Open all exterior car doors and all internal doors such as cabinets, closets, appliances and sleeping berths.

**Step (3):** In sleeper cars, turn all mattresses askew to expose cavities beneath sleeping berths. Turn on all operable wall or ceiling mounted fans.

**Step (4):** Turn on all on-board Heating, Ventilation, Air Conditioning (HVAC) systems and exhaust fans.

**Step (5):** Ventilate the railcar with enough portable fans to provide a minimum 113 m<sup>3</sup>/minute (4000 cfm) capacity per floor (in addition to on-board systems). Direct fans in such a manner to create cross-ventilation of railcar.

**Step (6): Clearance Testing:** After the minimum 2 hours active ventilation/aeration, the railcar may be reoccupied when the concentration of ProFume® fumigant is 3 ppm or less with all doors and windows closed and ventilation systems turned off as measured by an approved detection device.

Do not reoccupy the railcar or move the railcar until aeration is complete. Warning signs must remain posted until aeration is determined to be complete.

## **Reentry**

Prior to completion of clearance testing, no one shall be in the fumigated structures if the level of ProFume is above 3 ppm unless wearing a NIOSH or MSHA approved positive pressure self-contained breathing apparatus (SCBA not SCUBA) or combination of air supplies/SCBA respirator, such as Ranger, Survivor, Scott or MSA.

Only an approved detection device can be used to confirm a concentration of ProFume of 3 ppm or less in breathing zones. The structure or enclosure must remain posted for fumigation until cleared for reentry.

## **PRECAUTIONS**

KEEP OUT OF REACH OF CHILDREN AND PREVENT ACCESS BY UNAUTHORIZED PERSONNEL

Extremely Hazardous Liquid And Vapour Under Pressure. Inhalation Of Vapours May Be Fatal. Liquid May Cause Freeze Burns Of Exposed Skin.

Do not get in eyes, on skin, or on clothing. ProFume is odourless. Exposure to toxic levels may occur without warning or detection by the user.

## **PERSONAL PROTECTIVE EQUIPMENT FOR FUMIGATION**

### **Protective Clothing**

Do not wear gloves or rubber boots.

Do not reuse clothing or shoes that have become contaminated with liquid ProFume until thoroughly aerated and cleaned.

Eye protection, chemical-resistant splash-resistant goggles or a full-face shield, must be worn by the individual releasing the fumigant during gas introduction.

### **Respiratory Protection**

If the concentration of ProFume in the fumigated area as measured by an approved detection device does not exceed 3 ppm in the breathing zones, no respiratory protection is

required. When this concentration is exceeded, all persons in the exposure area must wear NIOSH or MSHA approved positive pressure self-contained breathing apparatus (SCBA, not SCUBA) or combination air-supplied/ SCBA respirator such as manufactured by Ranger, Draeger, 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, provides an adequate seal around the face, and that it is in good working order.

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