PRECAUTIONARY STATEMENTS

DANGER

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

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ENVIRONMENTAL HAZARDS

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PHYSICAL OR CHEMICAL HAZARDS

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DIRECTIONS FOR USE

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STORAGE AND DISPOSAL

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CONTAINER DISPOSAL: Tripic rinserprequivatent and offer for recycling or this structioning long spoke of indicating and 10 or by other upproved State and took procedures.

PESTIGIDE DISPOSAS: Pesticide, spray mixture or rinsate that cannot be used abusing to laber instructions must be disposed of according to studies. State or long, protributes under the Pescurce Conscination and Poscuery Act

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RESTRICTED USE PESTICIDE

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Aluminum Phosphide Bags

FOR USE AGAINST LISTED INSECTS WHICH INFEST STORED COMMODITIES. SPECIFIED PROCESSED FOODS, AND ANIMAL FEEDS.

*ACTIVE INGREDIENT:

55% INERT INGREDIENTS **45%** 100% 122 11 1

Keep out of reach of children



DANGER-POISON

PRACTICAL TREATMENT

If swallowed, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If inhaled, remove victim to open air and remove contaminater clothing. Keep victim warm. Call a physician immediately.

If on skin, wash affected area with soap and water.

If in eyes, flush thoroughly with water.

See side panel for additional precautionary statements.



Box 469, Alhambra, CA 91802

Telephone: (213) 283-2761

Contents: Net Weight:

100 bags/34 grans each 3400 grads

EPA Reg. No 5857-EPA Est. No. 46060-CI-04

SPECIFIC INSTRUC

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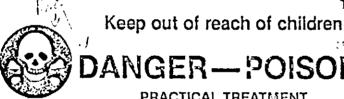


Aluminum Phosphide Bags

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FUNICATION OF UNMANNED BARGEST For I sted raw commodities or a FUMIGATION OF UNMANNED BARGEST For I sed raw commodities and an motifices transport id in bulk FUMITOXIN bass may be placed on the commoditivity or interited to switch sufficient transported from the coding is completed. For isted commodities not transported into wait of fort sted processed food, the FUMITOXIN biggs must be contained and to stended to a substantial support FUMITOXIN biggs or the risk dual dust must not con a interchabit with the processed food your speckaging. Down and earlost returned on unmanned to tops is defined to that used for the rism commodities fuminated in land board structures or storand areas. For ownly application of the Tumigant, the borghs must be seaked and warning processor stacked. Prior to unlaction of furmanned burnis make an propriate tests to ascure in sofety of dargo area.

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INSTRUCTIONS FOR INTRANSIT FUMICATION OF SHIPHOLDS

CONTAINING BULK COMMODITIES WITH

FUMITOXINTM ALUMINUM PHOSPHIDE BAGS

RESTRICTED USE PESTICIDE

For Retail Sale To and Use Only By
Certified Applicators or Persons Under Their
Direct Supervision and Only for Those Uses
Covered By the Certified Applicator's
Certification

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EPA Establishment No. 46060-CI-04 EPA Registration No. 5857-

BEST DOCUMENT AVAILABLE

IN-TRANSIT FUMIGATION OF GRAIN ON SHIPM

NOTE. The shipboard fumigation of grain is regulated by U.S. Goast Guard Repolation 46 CFR 147A.

NOTE. Not all types of ships are suitable to carry grain cargo under fumigation. The following directions for use are applicable only to dry bulk cargo vessels and tankers. In no case can a bulk cargo vessel be fumigated with FUMITONINE fumigant when there are crew quarters above the cargo holds.

Prior to fumigating a vessel for in-transit cargo fumigation, the master
of the vessel or his representative, and the fumigator must determine
whether the vessel is suitably designed and configured so as to allow
for safe occupancy by the ship's crew throughout the duration of the
fumigation.

If it is determined that the design and configuration of the vessel does not allow for safe occupancy by the ship's crew throughout the duration of the fumigation, then the vessel will not be fumigated unless all crew members are removed from the vessel. The crew members will not be allowed to reoccupy the vessel until the vessel has been properly aerated and a determination has been made by the master of the vessel and the fumigator that the vessel is safe for occupancy.

- 2. The person responsible for the fumigation must notify the master of the vessel, or his representative, of the requirements relating to personal protection equipment,** detection equipment and that a person qualified in the use of this equipment must accompany the vessel with cargo under fumigation. 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.
- 3. During the fumigation or until a manned vessel leaves port or the cargo is aerated, the person in charge of the fumigation shall insure that a qualified person using gas or vapor detection equipment tests spaces adjacent to spaces containing fumigated cargo and all regularly occupied spaces for fumigation leakage.

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.

4. If the fumigation is not completed and the vessel aerated before the manned vessel leaves port, the person in charge of the vessel shall insure that at least two units of personal protection equipment and one gas or vapor detection device, and a person qualified in their operation be on board the vessel during the voyage.

*FUMITOXIN is a trade mark of Pestcon Systems, Inc.
**Personal protection equipment means a gas mask fitted with a canister designed for phosphine gas which is approved by the U. S. Dept. of Interior, Bureau of Mines or its equivalent.

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INTRODUCTION

FUMITOXINTM Eags is a funigant preparation containing 55% aluminum phosphide (by weight) which when removed from their original shipping containers will liberate Hydrogen Phosphide (phosphine). The reaction between atmospheric moisture and the aluminum phosphide will continue for several days depending on climatic conditions.

IMPORTANT

1. FUNITOXIKTM Bags (EPA Reg. #5887-) is classified by the U.S. Environmental Protection Agency as RESTRICTED USE PESTICIDES, for retail sale to and use only by Certified Applicators or Persons Under Their Direct Supervision and Only for Those Uses Covered by The Certified Applicator's Certification.

PROCEDURES

Bulk Dry Cargo Vessels

Prefumigation Procedures

- Refer to and comply with the regulations and procedures found in U. S. Coast Guard Regulations, 46 CFR 147A.
- Determine fumigation suitability of vessel (ship) and be certain that
 the hold or holds to be fumigated are of such sealable construction to
 permit an in-transit fumigation without danger to the crew during the
 application and subsequent voyage.
- 3. Excluding the main hatch opening, seal all other openings to the hold using suitable, water proof, gas tight materials. Lock and/or otherwise secure all openings, manways, etc. normally used to enter the hold. Post appropriate "DANGER" signs on same.
- 4. Arrange for enough manpower to make application of the fumigant preparations in two hours or less (per hold).
- 5. Contact appropriate authorities.

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Application Procedures

FUMITORINTM BAGS.... Method One.

- 1. Calculate dosage on the basis of 3 to 6 bags per 1000 cubic feet. Dosage is always calculated on total hold volume irrespective of the amount or quantity of commodity loaded into the hold.
- 2. Open cans, remove bags and insert into the pockets of "bag blankets".
- Place the "bag blankets" fully extended into the commodity surface.
 Space several feet apart. Don't overlap.
- 4. Close the hatch cover immediately after blankets are in place.
- 5. Post "DANGER" signs in prominent locations on the outside of the hatch cover.

FUMITOXINTM BAGS....Method Two.

This method utilizes pre-packed bag blankets (100 bags per can).

- 1. Open cans and remove the bas blankets.
- 2. Place the rolled-up blankets onto the commodity surface and unroll until fully extended.
- 3. See steps 3, 4, 5, under Method One.

FUMITOXINTM BAGS.....Method Three.

In lieu of either Method One or Method Two the bags m. be uniformly scattered into the commodity surface or probed in to any depth desired, with spacing between each. These methods necessitate securing the bags to one or more continuous lengths of stout cord to facilitate easy removal at the port of discharge.

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TANKERS

Prefumigation Procedure

- Refer to and comply with the regulations found in U. S. Coast Guard Regulations 46 CFR 147A.
- 2. Determine fumigation suitability of vessel (ship) and be certain that the tank or tanks to be fumigated are of such sealable construction and/or integrity to permit an in-transit fumigation without danger to the crew during the application and subsequent voyage.
- 3. The overspace pressure relief system of each tank must be sealed by (1) the closure of appropriate valves, and (2) sealing the opening into the overspace with gas tight materials.

Application Procedures

FUMITOXINTM BAGS....Method Cnc.

- 1. Calculate dosage on the basis of 3 to 6 bags per 1000 cubic feet. Dosage is always calculated on the total tank volume irrespective of the amount of commodity loaded into the tank.
- A portion of the total number of bags designated for each tank <u>must</u> be allotted for placement in each butterworth and main hatch opening according to the portion of the tank served by that opening.
- 3. Determine the length and number of bag blankets required for each tank and cut to length accordingly.
- 4. Open cans and begin inserting the bags into the blankets. As each blanket is filled, position it on to the commodity surface, fully extended. This generally necessitates first rolling up the blanket, lowering it into the tank through the butterworth and then unrolling down the slope of the commodity. For those blankets being applied through the BIG BOY, it will mean entering the tank, selecting an unobstructed slope and unrolling.
- 5. Secure each blanket with a stout cord. Tie or otherwise secure the loose end to each butterworth opening plus the Big Boy. Do not leave any slack in the cord.
- 6. Close, secure and seal each butterworth and the Big Boy immediately following placement of the blankets.
- 7. Post "DANGER" signs.

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TUMITONINTH BAGS.... Method Two.

This method utilizes pre-packed bag blankets.

- 1. See steps 1 and 2 under method one for tankers.
- Determine the length and number of bag blankets required for each butterworth and the Big Boy. Be certain that the selected blanket "path" is unobstructed.
- 3. Open cans and remove the bag blankets. Open only enough cans to accommodate one butterworth at a time.
- 4. Unroll the blanket and cut them to length. Form a new roll, lower into position and unroll down the slope of the commodity until fully extended.
- 5. Repeat Step 4 for each butterworth and the Big Boy
- 6. See steps 5, 6, and 7 under TANKERS, Method One.

Post Fumigation Procedures

- 1. Until the ship leaves port, it will be necessary to regularly monitor all areas and spaces of the ship for the presence of hydrogen phosphide (phosphine) using appropriate phosphine detection equipment. Special attention should be given to living quarters, kitchens, storerooms, mess halls, keel ducts, day rooms, the bridge, engine room and any other enclosed spaces occupied or frequented by crew members during a voyage.
- 2. Check the tanks and/or holds for leaks and re-seal if necessary.

VOYAGE PRECAUTIONS AND PROCEDURES

Generally speaking crew members are free to move about the vessel in the usual manner. As a guide, however, the following minimum precautions should be followed:

- 1. DO NOT ENTER FUMIGATED HOLDS OR TANKS.
- 2. AT REGULAR INTERVALS MONITOR ALL SPACES AND AREAS CONSIDERED TO BE SAFE FOR OCCUPANCY USING APPROPRIATE GAS DETECTION EQUIPMENT.
- 3. IF PHOSPHINE IS DETECTED, EVACUATE THE SPACE OR AREA, LOCATE AND SEAL OFF THE SOURCE OF THE LEAK WEARING APPROPRIATE RESPIRATORY PROTECTION EQUIPMENT.
- 4. DO NOT OPEN OR OTHERWISE VENTILATE OR AERATE THE FUMIGATED HOLDS.

FEMITOXINTH FAGS

- I. Recove from the commodity surface before discharge begins.
- After fumigation, the spent bega shall be disposed of by burying entire
 package or by opening bags and dumping dust into water to which a small
 arount of wetting agent has been added. Do not dispose of bag in toilet.

PERSONAL PROTECTIVE EQUIPMENT

Because the release of phosphine from FUMITOMINTM BAGS is delayed after exposure to air, it is usually not necessary for operators to wear gas masks. However, suitable respiratory protective equipment should be immediately available. Use full face masks with canisters meeting U.S. Bureau of Mines specifications for phosphine.

GAS DETECTION EQUIPMENT

All users of fumigants should have, as standard equipment, gas detection devices designed specifically for phosphine. There are several devices readily available. Consult local suppliers of such equipment or contact Pestcon Systems, Inc. for more information.

PESTCON SYSTEMS, INC.
P. O. Box 469, Alhambra, California 91802
(213) 283-276.
Telex 698635 PESTCON CA

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DISCHARGE PRECAUTIONS AND PROCEDURES -

Upon arrival into the port of discharge holds or tanks may be opened. Any hydrogen phosphide in the free air space above the commodity will rapidly dissipate to atmosphere. There may be some gas remaining in the commodity tass itself which will disappear as discharge takes place.

If it is necessary for workers to enter holds, the air space directly above the commodity mass should be tested for phosphine. If found in excess of allowed limits, it will be necessary to allow for additional meration and/or ventilation.