

**INSTRUCTIONS  
FOR  
FUMIGATING  
SHIPHOLDS  
WITH**

**MAX/KILL®**

**HIGH LIFE**

**OR**

**MAX/KILL®**

**75-25**

**ACCEPTED**  
OCT 3 1981  
Under the  
Fungicide, etc.  
as amended,  
registered under  
EPA Reg. No. 2548-22

**EPA Establishment No. 2548-KS-1  
EPA Registration No. 2548-22  
EPA Registration No. 2548-30**

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## IMPORTANT

Shipboard, intransit ship or shiphold fumigation is also governed by U.S. Coast Guard Regulations. Refer to and comply with these regulations prior to fumigation.

## PROCEDURES

### Prefumigation Procedures

1. Prior to fumigating a vessel for intransit 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 fumigant 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 is not 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 a gas or vapor detection device, and a person qualified in their operation be on board the vessel during the voyage.

\* Personal protection equipment means a gas mask or respirator for the fumigant, jointly approved by the Training Enforcement and Safety Administration and the National Institute of Occupational Safety and Health.

### Application Procedures

Prepare each hold by sealing all openings that connect with other spaces or areas. Clear the deck of all unauthorized personnel. Apply the total dosage uniformly to the grain surface using a high volume pump, hose and nozzle. A nozzle-end delivery of 25-50 gallons per minute is recommended. In the case of completely filled holds insert the nozzle 2 to 3 inches below the grain surface and apply the dosage in a "light S" sweeping motion utilizing the entire grain surface. Avoid atomization above the grain surface. In the case of slack filled holds apply dosage as a very coarse spray to the grain surface from the deck. Close the hatch cover immediately after application.

**DOSAGE.** Completely Filled Holds 2-2 1/2 gallons/1000bu.  
Slack Filled Holds 2 1/2-3 gallons/1000bu.

### Precautions and Procedures During Voyage

Using appropriate gas detector equipment, monitor spaces adjacent to areas containing fumigated cargo and all regularly occupied areas for fumigant leakage. If leakage is detected, the area should be evacuated of all personnel, ventilated and action taken to correct the leakage, before allowing the area to be occupied. Do not enter fumigated areas except under emergency conditions. If necessary, to enter a fumigated area, appropriate personnel protection equipment must be used. Never enter fumigated areas alone. At least one other person, wearing personal protection equipment, should be available to assist in case of an emergency.

### Precautions and Procedures During Discharge

If necessary to enter holds prior to discharge, test spaces directly above grain surface for fumigant concentration, using appropriate gas detection and personal safety equipment. Do not allow entry to fumigated areas without personal safety equipment unless fumigant concentrations are at safe levels, as indicated by a suitable detector.

### Danger Signs

Fumigated areas must be placarded on all entrances with signs containing at least the signal word DANGER and the Skull & Crossbones and the words "Area under fumigation, do not enter until completely aerated," the date of fumigation, name of the fumigant used, emergency telephone number for contact, and the name and address of the fumigator. Do not remove warning signs until the fumigated area is completely deflated and safe for entry, as indicated by a suitable detector.

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