

Douglas Products and Packaging

Presents

PhosFume<sup>®</sup>

Applicator's Manual Update



The new PhosFume<sup>®</sup> label is the result of extensive collaboration between Aluminum Phosphide Registrants and the EPA to ensure that proper uses for PhosFume<sup>®</sup> are maintained. The Applicator's Manual establishes the required procedures for the safe use of PhosFume<sup>®</sup> fumigants. The manual also ensures that proper labeling, documentation and safe practices are used through-out the fumigation process.



- The new label contains 25 sections listed in the table of contents with corresponding page numbers. The additional sections provide easier access to different portions of the label.
- Language Changes as well as more detailed information means that instructions are now clearly represented on the new label.
- **New Sections**
  - Notification Requirements
  - Detailed Storage Instructions
  - Receiving of In-Transit Vehicles under Fumigation
  - Sealing of Structures
  - Fumigation Management Plan
  - Transportation Instructions



# Key Changes

- The dosage guideline has been modified to reflect the maximum allowable rate for fumigation with PhosFume<sup>®</sup>.
- Training for receiving in-transit vehicles under fumigation.
- Sealing instructions for various structures.
- Storage instructions giving types of signs to be posted outside of PhosFume<sup>®</sup> storage facility.
- Transportation instructions and exemption clarification.
- Fumigation Management Plan creation and implementation.



# Fumigation Management Plan: FMP

- A Fumigation Management Plan (FMP) is a written description of steps to help ensure a safe and effective fumigation.
- The FMP is meant to be somewhat prescriptive, yet flexible enough to allow experience and expertise of the fumigator to make necessary changes based on circumstances which exist in the field.



- The FMP is used to ensure Certified Applicators conduct a safe, legal and effective fumigation.
- The Certified Applicator is responsible for working with the owners and/or responsible employees of the site to develop and follow the FMP.
- The FMP and related documents including monitoring records must be maintained for a minimum period of 2 years.



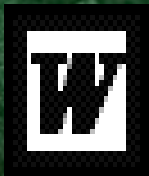
- The FMP must address site characterizations and include appropriate monitoring and notification requirements consistent with, but not limited to the following:
  - Suitability for Fumigation.
  - Consult previous records for any structural changes
  - Monitor any occupied adjacent buildings to ensure safety.
  - Prior to fumigation, review existing FMP, MSDS, Applicator's Manual and safety procedures with company officials and appropriate employees.



- Consult Company Officials
  - Develop appropriate safety measures for nearby workers.
  - Create an appropriate monitoring plan that will confirm nearby workers, bystanders and residents are not exposed to phosphine levels above the acceptable limit.
  - Develop procedures for local authorities to notify nearby residents in a case of an emergency.
- Confirm placement of Warning Placards to correctly identify all entrances of the area under fumigation.
- Confirm safety equipment and manpower is in place to complete fumigation.



- The required parts in creating a FMP are:
  - Purpose of fumigation
  - A Checklist Guide
  - Preliminary Planning and Preparation
  - Personnel Training and Safety
  - Monitoring
  - Sealing Procedures
  - Application Procedures and Duration of Fumigation
  - Post Application Operations



Click Icon for Sample FMP



# FMP Preparation Guide

- Before any fumigation begins carefully read and review the Label and the Applicator's Manual.
- Be familiar and comply with all applicable federal, state and local laws.
- Each item on the FMP guide must be considered, however each fumigation is different and not all items may be necessary.



## Checklist Guide for FMP

- Preliminary Planning and Preparation
  - Determine Purpose of Fumigation
    - Insect or Rodent Infestation or Plant Pest Quarantine
  - Determine the Type of Fumigation
    - Space, Vehicle, Commodity, Type of Storage, Vessels



# Preliminary Planning and Preparation

- Acquaint yourself with the site and commodity to be fumigated.
  - Understand the structure and draw or have a drawing or sketch of the structure highlighting main features.
  - The number and identifications of persons who routinely enter the area to be fumigated (i.e., employees, visitors, customers, etc.).
  - Commodity to be fumigated, mode of storage and condition.
  - Identify telephone and other means of communication and mark them on drawing.
  - List emergency telephone numbers of Health, Fire, Hospital and appropriate company officials.
  - Check, mark and prepare points of fumigation locations if the job involves entry into the structure for fumigation.



# Preliminary Planning and Preparation –cont'd

- Exposure Time Considerations
  - Dosage rate used, fumigation duration, aeration requirements, cleanup requirements, deactivation.
  - Measure and record commodity temperature and moisture content.
- Determination of Dosage
  - Cubic footage, efficient sealing of structures, label recommendations, temperature, humidity, wind speed, structural history and exposure time.



## Checklist Guide for FMP

- PERSONNEL
  - Confirm in writing that all personnel have been notified before starting fumigation.
  - Instruct fumigation personnel on the hazards as well as personal protection devices and detection equipment required.
  - Confirm personnel know how to proceed in case of an emergency.
  - Establish meeting area for all personnel in case of emergency.



# Checklist Guide for FMP

- **MONITORING**

- Phosphine gas readings should be conducted in all areas to prevent excessive exposure and determine where it may occur.
- All Phosphine gas readings should be maintained, including times and levels of concentration in each location.
- Where there is no phosphine gas present above safe levels, only occasional checks are necessary if conditions change.
- Monitoring should be done during aeration to ensure that gas levels do not exceed allowable levels.
- Phosphine readings should be taken from within the structure.
- All Phosphine readings should be documented.



## Checklist Guide for FMP

- Notification
  - Confirm local authorities (fire, police) are notified.
  - Prepare Emergency Response if phosphine levels are exceeded and dangerous to bystanders and domestic animals.
  - Confirm receivers of in-transit vehicles under fumigation are notified and trained as per Section 11 of the Applicator's Manual.



## Checklist Guide for FMP

- **SEALING PROCEDURE**
  - The sealing must be adequate to maintain gas concentration and should remain intact until fumigation is complete.
  - Review previous FMP if available.
  - Make sure construction/remodeling has not changed the site.
  - Warning Placards must be placed on every possible entrance to the fumigation site.



## Checklist Guide for FMP

- Application Procedures and Fumigation Phases
  - Apply PhosFume<sup>®</sup> as per label requirements.
  - When entering into fumigated area, always have 2 or more people under direct supervision of certified applicator using the proper respiratory equipment.
  - Apply fumigant from the outside where appropriate
  - Confirm the area is secure or provide watchmen to prevent entry by unauthorized personnel.
  - Follow OSHA Rules for confined spaces.
  - Document that receiver of in-transit vehicles/containers under fumigation are notified.
  - Turn off any electric lights and all nonessential electric motors.



# Checklist Guide for FMP

- Post Application Operations
  - Provide watchmen where area cannot be secured.
  - Ventilate and aerate per structural requirements and use fans where appropriate.
  - Use gas detector before reentry to determine fumigant concentration.
  - Keep written records of monitoring showing completion of aeration.
  - Consider temperature when aerating.
  - Remove warning placards when aeration is complete.
  - Ensure aeration is complete before treated vehicle is allowed onto public roads.



# Application Procedures

- The Applicator's Manual provides general guidelines for different types of fumigation.
- The FMP is a part of these procedures to ensure minimum human exposure and assure adequate control of insects and other pests.
- Instead of a descriptive format as the previous label, details are clearly listed for easier reference.



## Certified Applicator Requirements and Responsibilities

- A Certified Applicator must be physically present, responsible for, and maintain visual and/or voice contact with all workers during the application of fumigant materials.
- The Certified Applicator must be physically present, responsible for and maintain visual and/or voice contact with all fumigation workers during the initial opening of the fumigated structure for aeration.
- Only persons with documented training by a Certified Applicator in the handling of PhosFume<sup>®</sup> products can be responsible for receiving, aerating and removal of warning placards from vehicles that have been fumigated in-transit.



# Authorized Training Requirements

## – Section 11

- All person(s) must be trained by a Certified Applicator following the EPA approved product applicator manual or by training which has been accepted by local and/or state authorities.
- Training dates must be logged and maintained in the employee safety training records for a minimum of 3 years.
- Refresher training must be done on an annual basis.



## Key Points to Cover During Training

- Aeration of vehicle to contain no more than 0.3 ppm phosphine.
- Receive training in the transfer of commodity with prior aeration and ensuring worker safety.
- Determine when respiratory protection must be worn.
- How to protect workers and nearby persons from exposure.
- Proper removal of warning placards from in-transit vehicles.
- Proper residual disposal instructions.



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