

i FACT SHEET

Aluminum phosphide and fumigation management plans (FMPs) for structures



Aluminum phosphide is the active ingredient in one type of pesticide used to kill a variety of pests, including insects and rodents; it can be used in structures including grain bins, rail cars, warehouses, shipping containers, and ships.

Aluminum phosphide comes in different forms including tablets, pellets, ropes, and prepac ropes. Aluminum phosphide fumigants are restricted-use pesticides and can only be purchased and used under the supervision of a licensed pesticide applicator, and require a fumigation management plan (FMP). Trade names for products that contain aluminum phosphide include Fumitoxin, Phostoxin, Weevil-cide, Gastoxin, and Phosfume.

Why is a FMP required?

An FMP is a written document required by the U.S. Environmental Protection Agency to ensure structures are fumigated safely and effectively. Applicators must prepare a fumigation management plan every time before they use the fumigant.

Aluminum phosphide fumigants produce phosphine, an extremely toxic, flammable, and potentially explosive gas. When used or stored improperly, aluminum phosphide fumigants have resulted in deaths, explosions, and fires.

How to prepare an FMP for structures

When you purchase an aluminum phosphide fumigant, you must receive an applicator's manual. The applicator's manual is part of the label. Read and follow all the instructions on the product label and in the applicator's manual before you prepare the FMP.

An FMP for structures includes the following information:

- **A description of the structure and the commodity being fumigated.** Include the purpose of the application and the dosage, a sketch of the facility, evacuation routes, emergency utility shut-offs, and locations of telephones.
- **Personnel training and notification.** Keep a record that all personnel at the site have been notified about the application and know what to do in an emergency. Ensure that applicators read the label and the applicator's manual and are aware of aluminum phosphide hazards.
- **Exposure monitoring.** Develop a monitoring plan based on the type of fumigation performed. The monitoring plan helps ensure that levels of phosphine gas are safe outside the structure and the levels inside the structure achieve the best pest control.

- **Notification of authorities.** Document when you notified local authorities about the application and prepare an emergency response plan.
- **Sealing procedures.** Describe how the structure will be sealed to prevent fumigant vapors from escaping. Determine if construction or renovation work has altered the building to make it unsuitable for fumigation. Document that warning placards have been placed on every entrance.
- **Application procedures and fumigation period.** Describe all application procedures including the number of persons involved and how they are supervised.
- **Post-application operations.** Describe safety measures necessary after the fumigation is over. Include how you will keep unauthorized persons away from the structure during the aeration process and who will be responsible for removing warning placards.

You must prepare an FMP for **each** fumigation. Keep the FMP on file for two years.

What requirements apply to aluminum phosphide fumigants?

Oregon OSHA's requirements for structures

Agricultural operations

- Division 4/Z, 437-004-9010 Fumigated areas
- Division 4/N, 437-004-1680 Storage of hazardous chemicals
- Division 4/Z, 437-004-9800 Hazard communication for agricultural employers
- Division 4/Z, 437-004-9000 Oregon rules for air contaminants
- Division 4/K, 437-004-1305 Medical services and first aid



General industry operations

- Division 1, 437- 001-0760(c)(1) Health Hazard Control Measures
- Division 2/Z, 1910.1200 Hazard Communication
- Division 2/Z, 437-002-0382 Oregon Rules for Air Contaminants
- Division 2/I, 1910.134 Respiratory Protection
- Division 2/J, 437-002-0146 Confined Spaces
- Division 2/K, 437-002-0161 Medical Services and First Aid
- Division 2/N, 437-002-0221 & 1910.176 Material Handling

Oregon Department of Agriculture: prohibited acts

- Using a pesticide inconsistent with its labeling. 634.372(2)
- Performing a pesticide application in a faulty or careless manner. 634.372(4)
- As a pesticide applicator, working or engaging in the application of any class of pesticides without first obtaining and maintaining a pesticide applicator's license, or applying pesticides that are not specifically authorized by such license. 634.372(8)
- As a pesticide operator, engaging in the business of, or representing or advertising as being in the business of, applying pesticides upon the land or property of another, without first obtaining and maintaining a pesticide operator's license; nor will an operator engage in a class of pesticide application business that is not specifically authorized by a license issued by the Oregon Department of Agriculture. Furthermore, no operator will employ or use any person to apply or spray pesticides who is not a licensed pesticide applicator or pesticide trainee. 634.372(9)

- As a pesticide trainee, working or engaging in the application of any class of pesticides without first obtaining and maintaining a pesticide trainee's certificate. 634.372(10)
- Applying any pesticide classified as a restricted-use or highly-toxic pesticide to agricultural, horticultural, or forest crops on land owned or leased by the person without first obtaining and maintaining a private applicator certificate. 634.372(13)

Oregon State Fire Marshal

Fumigation operations within structures must comply with Chapter 26 of the [Oregon Fire Code](#).

Resources

- 🔗 [The Oregon Department of Agriculture](#)
- 🔗 [North Dakota State University sample FMP](#)
- 🔗 [Montana State University sample structural FMP](#)
- 🔗 [Fumigating Farm-stored Grain with Aluminum Phosphide](#)



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