

References

For further information about the safe use of grain fumigants and the laws that regulate use of them, see:

"Pesticide Fact Sheet: Aluminum and Magnesium Phosphide". Environmental Protection Agency, Fact Sheet Number 118. February 20, 1987.

Federal Insecticide, Fungicide, and Rodenticide Act, as amended (7 U.S.C. 136)

"Health Hazard Evaluation Report: Federal Grain Inspection Service - USDA, Portland Oregon." National Institute for Occupational Safety and Health, NETA 83-375-1521. October 1984.

40 C.F.R. Part 152, Subpart 1. Classification of Pesticides

For More Information:

Environmental Protection Agency
1200 Sixth Avenue, AT-083
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Federal Grain Inspection Service
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Occupational Safety & Health Administration
U.S. Department of Labor
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Washington, D.C. 20210

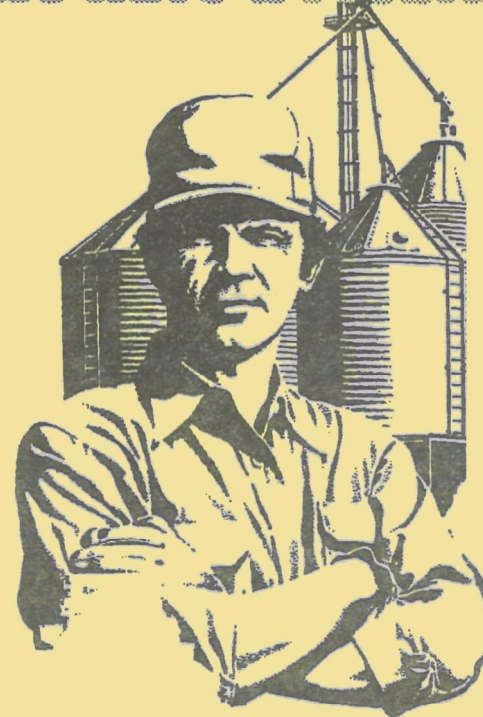
U.S. Department of Transportation
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Grain Handlers! We Have a Problem.



In the Pacific Northwest, unplacarded transports carrying grain treated with phosphine fumigants are posing a health and safety risk to grain handlers



Failing to Test Commodity Temperature and Placard Fumigated Grain Transports is Jeopardizing Our Safety

Use of Phosphine Fumigants

The only way to effectively and safely use phosphine fumigants is to use them as the product label directs. It is important to remember that these substances are toxic and potentially harmful to people. Using approved application methods and placarding all grain transports carrying fumigated grain are our best means of ensuring the safety of all grain handlers.

The Problems

Missing Placards

Failure to placard fumigated grain transports presents a great danger. Some applicators are not placarding grain carriers with signs to warn inspectors, samplers, and other grain handlers that grain contained in the carrier has been fumigated. As a result, inspectors, samplers, and grain handlers working in and around unplacarded transports are being exposed to dangerous levels of fumigants.

A study conducted by the National Institute for Occupational Safety and Health concludes that *"...since fumigated and non-fumigated railcar shipments are identical in appearance except for placarding, workers opening unplacarded, fumigated grain shipments will probably not realize the grain has been treated until after exposure has occurred."*

Testing Commodity Temperature

Aluminum phosphide labels require that the internal commodity temperature be tested before the fumigant is applied. In cold weather months, the internal commodity temperature may be below 40 degrees F - too low for the phosphide tablets to react. If applied improperly to a cold grain shipment, unspent tablets will not begin to react until arrival in warm weather areas such as ports in Oregon and Washington. The phosphine gas that then is produced in a sealed transport during shipment can cause severe poisoning upon opening, especially if placards are not attached to warn grain handlers of the danger.

The Health Hazards

Working in or around an unplacarded transport containing unsafe levels of phosphine without allowing it to aerate may result in direct inhalation of toxic fumes. Such exposure may cause weakness, tremors, vomiting, coughing, difficult or labored respiration, and possibly pulmonary edema. For a grain handler walking atop a railcar or trailer, these symptoms could result in a long, dangerous fall.

The Solutions

Testing and Placarding

All individuals in the grain handling and transport system must ensure each other's safety. Grain transports *must* be placarded with warnings that the contents of the carrier, whether a barge, railcar or truck, are fumigated. Placards on grain transports alert official grain inspection personnel and grain handlers that the grain contained in the transport has been fumigated and must be aerated before it can be safely handled, inspected, or sampled.

Before applying aluminum phosphide fumigants, applicators should also test commodity temperature and only apply when the temperature is 40 degrees F or above. This practice is particularly important when using fumigants in cold weather months since cold commodity temperatures will slow down or stop the production of phosphine gas. Normal aeration or detection procedures may fail in this situation. Testing for the presence of phosphine gas will give you a false "safe" reading because the phosphide tablets will have failed to react. The only reliable course of action is to withhold application until the internal commodity temperature has risen to 40 degrees F.

What You Can Do To Help

Proper placarding will ensure that grain handlers throughout the system have the opportunity to take necessary safety precautions before working with fumigated grain.

For the safety of other grain handlers, remember to test commodity temperature before applying aluminum phosphide fumigants. Placard fumigated transports and date the placards as to when fumigation began. If you have reason to believe that a fumigated transport may *not* be completely aerated, be sure that placards remain attached to the transport during shipment.

Safety is the Law

The Environmental Protection Agency regulates the use of fumigants through instructions on the product label. Remember that failure to follow these instructions violates state and federal laws. The labels on aluminum phosphide fumigants state:

"Do not fumigate if commodity temperature is below 40 degrees F."

"All entrances to a fumigated site must be placarded. (Railroad hopper cars must be placarded on both sides near the ladders and on the top hatch where fumigant was applied). A placard may only be removed after the commodity is completely aerated. To determine whether aeration is complete, each fumigated site or vehicle must be monitored and shown to contain 0.3 parts per million (ppm) or less phosphine gas in the air and space around and, when feasible, in the mass of the commodity. If more than 0.3 ppm is detected, the placard must be transferred with the treated commodity. Persons transferring or handling incompletely aerated commodities must be informed of the presence of phosphine and adequate measures must be taken to prevent exposure to more than 0.3 ppm."