

### Aluminum Phosphide Canisters

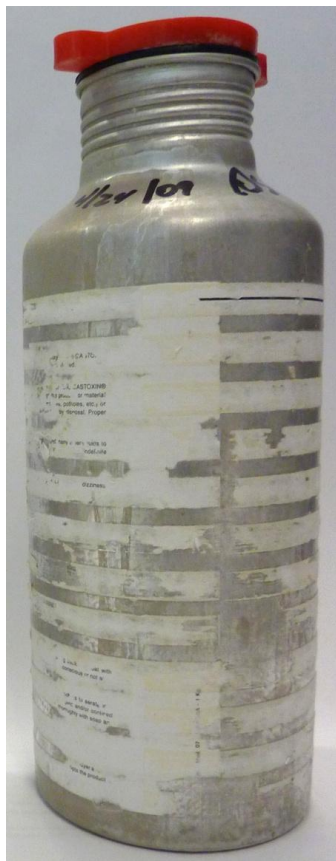
#### Their use and hazards

Aluminum phosphide is a fumigant (a chemical product that generates toxic fumes to kill insects) placed in the holds of ships filled with bulk grains such as barley, canola, corn, oats, soybeans, and wheat. It commonly comes in pellets or tablets inside capped, 10-inch aluminum canisters. Aluminum phosphide reacts with moisture in the air to produce phosphine gas, which is poisonous. Capped fumigation canisters thrown overboard will float and can eventually wash ashore. Beachcombers who find and open these canisters may be exposed to a health hazard due to the poisonous aluminum phosphide residue remaining in the canisters.

In the United States, aluminum phosphide is a **Restricted Use Pesticide**. It can only be purchased and used by certified applicators or people under their direct supervision. The U.S. Environmental Protection Agency (EPA) lists the fumigant under the highest **Toxicity Class 1** and the canisters must bear the word **DANGER**.

According to the canister label, ship holds must be opened and aired out at least 48 hours before delivering the treated cargo. Even in small amounts phosphine gas presents a human health risk.

If you find a canister like this on your beach, carefully collect the canister and store in a location away from the high waterline. Immediately report the location of the canister to Ecology at **360-407-6300**.



#### WHY IT MATTERS

The Department of Ecology's responders are responding to and investigating incidents where empty fumigation canisters wash ashore.

Some canisters have small amounts of phosphine gas which poses a health risk to people. The public should report them to Ecology.

Ship operators should ensure that these canisters are disposed of properly for public safety and for protection of the environment.

#### Contact information:

Questions about canisters found on Washington beaches?

Contact:

Doug Stolz

Phone: 360/407-6377

Fax: 360/407-6305

[doug.stolz@ecy.wa.gov](mailto:doug.stolz@ecy.wa.gov)

For vessel operations, contact:  
Captain Guy Grayson  
Washington Dept. of Ecology  
Spill Prevention, Preparedness,  
and Response Program  
PO Box 47600

Olympia, WA 98504-7600

Phone: 360-407-7455

Fax: 360-407-7288

[ggra461@ecy.wa.gov](mailto:ggra461@ecy.wa.gov)

#### Special accommodations:

To ask about the availability of this document in a version for the visually impaired call the Spills Program at 360-407-7455. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

**Disposal information for the public**

If you find one of the canisters, Ecology's spills and hazardous materials response team has this advice:

- Don't remove the plastic lid from the canister. It could still have some of the poisonous residue inside.
- Without removing the lid, carefully collect the canister and store it in a location away from the water, where the tide won't wash it away.
- Immediately report the location of the canister to Ecology at 360-407-6300.

**Disposal information for ship operators**

Standard practice in U.S. ports where fumigation occurs is to remove all aluminum phosphide canisters from cargo vessels prior to departure. Should empty canisters be found on board, the following information and precautions apply:

- Disposal procedures should be reviewed with appropriate authorities to ensure compliance with international, port, state, and local government rules and regulations as well as safety management system requirements.
- Fumigation canisters and caps may be rinsed three times with water or by exposing to open air for at least 24 hours. Any rinse water must be properly treated according to all applicable laws, rules and regulations.
- Canisters without lids can be recycled once they contain no harmful chemical residue.
- Do not store or dispose of the canisters in a way that would contaminate food or water.
- Do not reuse or refill aluminum canisters.

**Additional information for vessel owners, operators, and managers**

- Under Washington state law, it is illegal to dump any waste into state waters, generally considered to be within three nautical miles of land.
- Vessel operators and vessels should apply MARPOL 73/78\* regulations on garbage disposal and their garbage management plan to fumigation canister disposal.
- If the current safety management system doesn't include handling of fumigation canisters, it is recommended that procedures be developed and included in the safety management system.
- It is recommended that vessels using fumigate pesticides conduct appropriate training for crew members and include cargo fumigation procedures in their safety protocol.
- MARPOL regulations state that "empty packagings which have been used previously for the carriage of harmful substances shall themselves be treated as harmful substances unless adequate precautions have been taken to ensure that they contain no residue that is harmful to the marine environment."
- MARPOL regulations also assert that no metal garbage shall be disposed of less than 12 nautical miles from the nearest land and any plastic must be removed from metal canisters prior to at-sea disposal.
- U.S. Coast Guard regulations for shipboard fumigation also governs in-transit or ship-hold fumigation. Refer to the *Regulation 46 CFR 147 A* prior to fumigation. For more information, contact:

Commandant, U.S. Coast Guard - Hazardous Materials Standards Division  
GMSO-3, Washington, DC 20593-0001

\* "MARPOL" is short for marine pollution. MARPOL 73/78 is the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978.