



**MATERIAL SAFETY DATA SHEET: SPENT DEGESCH ALUMINUM  
PHOSPHIDE PRODUCTS**

Phostoxin® Tablets  
Phostoxin® Pellets  
Phostoxin® Tablet Prepac

**From:**

Phostoxin® Prepac Rope  
Detia® Fumex  
DetiaPhos Tablets  
DetiaPhos Pellets

**SECTION I - PRODUCT INFORMATION**

**Manufacturer:**

DEGESCH America, Inc.  
153 Triangle Dr.  
P. O. Box 116  
Weyers Cave, VA 24486 USA

Telephone: (540) 234-9281  
Telefax: (540) 234-8225  
Internet Address:  
www.degeschamerica.com  
E-mail: degesch@degeschamerica.com

**EMERGENCY TELEPHONE NOS.:**

Emergency - Chemtrec (800) 424-9300  
Emergency and Information - DEGESCH America, Inc. (540) 234-9281 or 1-800-330-2525

Date of Revision: October 2002

**SECTION II - HAZARDOUS INGREDIENTS INFORMATION**

**Identity:**

Waste, spent Degesch aluminum phosphide products consist mainly of aluminum hydroxide and inert ingredients in the formulation of the product. The aluminum hydroxide is generated via the following reaction:



Al(OH) <sub>3</sub>	CAS No. 21645-51-2
AIP	CAS No. 20859-73-8
PH <sub>3</sub>	CAS No. 7803-51-2

The spent material will also contain from about 2 to 3 percent unreacted aluminum phosphide. However, this small amount of active ingredient is stabilized in the crystalline lattice of the waste. As a result, the waste has very low oral and dermal toxicity, is not a significant fire hazard and is not a RCRA hazardous waste. Spent and partially spent dust are rather dense and ordinarily do not represent an inhalation hazard. Proper protective equipment should be worn under conditions where significant risks of inhalation are present.

Unreacted or incompletely exposed aluminum phosphide fumigants are highly toxic and are hazardous wastes which will trigger the RCRA laboratory test characteristics of reactivity and ignitability. Since Degesch phosphine fumigants are not manufactured with ingredients listed under the RCRA toxicity characteristic, they will not trigger the toxicity characteristic leaching procedure (TCLP).

**ACGIH Exposure Limits:**

Phosphine:	TLV/TWA 0.3 ppm PH <sub>3</sub> , TLV/STEL 1.0 ppm PH <sub>3</sub>
Aluminum Oxide Dust:	TLV/TWA 10mg/m <sup>3</sup>

**Toxicity:**

Acute Oral Toxicity	LD <sub>50</sub> = 3000 mg/kg
Acute Dermal Toxicity	LD <sub>50</sub> > 5000 mg/kg

**NFPA Chemical Hazard Ratings:**

Flammability Hazard 1  
Health Hazard 0  
Reactivity Hazard 1  
Special Hazard None

**SARA Physical and Health Hazards:**

None

**SECTION III - PHYSICAL CHARACTERISTICS**

**Boiling Point:** >1000°C

**Vapor Pressure:** 0mm Hg @25°C

**Density:** 2.4g/cc

**Solubility in Water:** insoluble

**Solubility in Acid and Base:** very soluble and will liberate small amounts of phosphine

**Appearance and Odor:**

Spent Degesch aluminum phosphide products are a slight grayish-white in color. They are generally odorless, however, they may have a faint garlic or decaying fish odor due to traces of phosphine being evolved.

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

**Flash Point:** >800°C

**Extinguishing Media:** n/a, not flammable

**Special Fire Fighting Procedures:** n/a

**Respiratory Protection:**

None required. Use NIOSH/MSHA approved dust mask if spent dust becomes airborne.

**Protective Clothing:**

Wear gloves when handling aluminum phosphide or its spent dust

**Unusual Fire and Explosion Hazards:**

None, under ordinary circumstances. However, spent dust will liberate small amounts of phosphine when reacted with acids or bases. The phosphine, if it allowed to concentrate in a confined area, may be toxic and/or flammable.

**SECTION V - REACTIVITY DATA****Stability:**

Spent aluminum phosphide dusts are stable under most conditions. However, the dust will liberate phosphine if contacted by acids, bases or boiling water.

**Incompatibility:**

None, except as described under Stability.

**Corrosion:**

None.

**Hazardous Polymerization:**

Will not occur.

**SECTION VI - HEALTH HAZARD INFORMATION****Routes of Entry:**

The primary route of exposure is dermal. However, ingestion and inhalation exposures are also possible. Spent dust from Degesch aluminum phosphide products have very low oral and dermal toxicity. This small risk may be avoided by the use of cloth gloves when handling the material, as required by EPA-approved labeling. Accidental ingestion is avoided by washing, prior to eating, after handling phosphine fumigants. The risk of any significant inhalation is very small because of the high density of the spent dust and its low toxicity.

**Acute and Chronic Health Hazards:**

Exposure to phosphine at levels up to worker protection limits will not cause any acute effects or carcinogenicity or other chronic health effects. Spent dust has very low acute toxicity via the dermal or oral exposure routes and it is believed to have no chronic toxicity.

**Carcinogenicity:**

Phostoxin and Fumex are not carcinogenic and aluminum phosphide and other ingredients of spent dust and Degesch fumigants are not known to be carcinogenic.

**Signs and Symptoms of Exposure:**

There are no signs or symptoms of exposure to spent dust at levels likely to be encountered.

**Emergency and First Aid Procedures:**

Usually no emergency or first aid procedures are required due to the low toxicity of the spent dust. However, recommended procedures for dealing with overexposures from unreacted aluminum phosphide and phosphine are given below.

If the gas or dust from aluminum phosphide is inhaled:

Get exposed person to fresh air. Keep warm and make sure person can breathe freely. If breathing has stopped, give artificial respiration by mouth-to-mouth or other means of resuscitation. Do not give anything by mouth to an unconscious person.

If aluminum phosphide pellets, tablets or powder are swallowed:

Drink or administer one or two glasses of water and induce vomiting by touching back of throat with finger, or if available, syrup of ipecac. Do not give anything by mouth if victim is unconscious or not alert.

If powder or granules of aluminum phosphide get on skin or clothing:

Brush or shake material off clothes in a well ventilated area. Allow clothes to aerate in a ventilated area prior to laundering. Do not leave contaminated clothing in occupied and/or confined areas such as automobiles, vans, motel rooms, etc. Wash contaminated skin thoroughly with soap and water.

If dust from pellets or tablets gets in eyes:

Flush with plenty of water. Get medical attention.

**SECTION VII - PRECAUTIONS FOR SAFE HANDLING**

Avoid contact with spent dust by using cloth gloves when handling this material. Avoid inhalation of the spent dust. NIOSH/MSHA approved dust masks should be worn if inhalation of the dust is likely to occur.

**For Assistance:**

Contact - DEGESCH America, Inc.

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Telefax: (540) 234-8225

Internet address: [www.degeschamerica.com](http://www.degeschamerica.com)

or

Chemtrec: (800) 424-9300

**Disposal of Spent Phostoxin:**

When being disposed of, spilled or partially reacted Degesch aluminum phosphide fumigants are hazardous wastes under existing Federal Regulations. If properly exposed, the grayish-white residual dust after a fumigation will not be a hazardous waste and normally contains only a very small amount of unreacted aluminum phosphide. This waste will be safe for disposal. However, the residual dust from incompletely exposed products may require special care.

Triple rinse flasks and stoppers with water or dry deactivate them by exposure to open air for 24 hours or longer. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Rinsate may be disposed of in a storm sewer, sanitary landfill or by other approved procedures. Or, it is permissible to remove lids and expose empty flasks to atmospheric conditions until the residue in the flasks is reacted. Then puncture and dispose of in a sanitary landfill or other approved site, or by other procedures approved by state and local authorities.

Some local and state waste disposal regulations may vary from the following recommendations. Disposal procedures should be reviewed with appropriate authorities to ensure compliance with local regulations. Contact your State Pesticide or Environmental Control Agency or Hazardous Waste Specialist at the nearest EPA Regional Office for guidance.

See Degesch America, Inc. MSDS for Aluminum Phosphide fumigants for recommendations on disposal and handling unreacted or incompletely reacted fumigant.

## **SECTION VIII - CONTROL MEASURES**

### **Respiratory Protection:**

NIOSH/MSHA approved respiratory protection for dusts may be used when inhalation exposure to spent dust is likely to occur.

### **Protective Clothing:**

Wear cloth gloves when handling spent dust from aluminum phosphide fumigants.

### **Eye Protection:**

None required.

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