



VAPORPH₃OS[®] Phosphine Fumigant

On-site Blending with Carbon Dioxide

DESCRIPTION

VAPORPH₃OS phosphine fumigant is a cylinderized source of 100% phosphine for use in the fumigation of post-harvest products or storage structures. VAPORPH₃OS phosphine fumigant is designed for use in conjunction with Cytec-approved blending equipment capable of diluting the phosphine concentration to below its lower flammability limit of 3% (vol.). On-site blending with carbon dioxide (CO₂) as a dilution gas can achieve this result. This option is well suited for locations that already have on-site storage of liquid CO₂ or sites where CO₂ can be transported easily. The on-site blending of VAPORPH₃OS fumigant gas is also an attractive option when frequent fumigation is required. It is also well suited to locations where centralized dispensing stations are feasible.

TECHNICAL SPECIFICATIONS

Formulation of VAPORPH₃OS

- Phosphine (PH₃): 100%

VAPORPH₃OS fumigant gas is pyrophoric and intended for use in accordance with its EPA-approved label.

Packaging

- High-pressure steel cylinder
- Gross weight of full cylinder: 177-180 lbs.
- Gross weight of empty cylinder: 137-140 lbs.
- Net weight of VAPORPH₃OS phosphine fumigant per cylinder: 39.7 lbs.
- Cylinders are packaged in steel racks (16 cylinders per rack)
- Total weight of cylinders and rack: 3,300 lbs.
- Cylinder valve connection: CGA 350 (left-handed thread)
- Internal cylinder pressure: 500 psig@70°F.
- Pressure of dispensed mixture: 15 psig (approximate)

Equipment

- VAPORPH₃OS phosphine fumigant can be blended on-site with CO₂ gas using Cytec-approved blending equipment. This rugged and portable equipment can be designed to meet dosing requirements, and features a computer interface that facilitates its operation. The blender has many built-in safety systems that monitor the blending and delivery of the fumigant while providing warnings and automatic shut-off if necessary.
- Requires: Single phase power supply
Bulk source of CO₂

Dispensing Rate

- Up to 7.5 lbs./hr., or 3,400 grams phosphine/hr.

Fumigation Capabilities

- One (1) cylinder of VAPORPH₃OS phosphine fumigant is capable of fumigating 2,245,000 ft³ (1,804,000 bushels).



APPROVED STORAGE AND APPLICATIONS

Storage

- Warehouses
 - Railcars, ship-holds, sea containers and trailers
 - Bins and silos
 - Tarps and bunkers
- Storage size limitations: none

Pests Eliminated

- Weevils (Rice, Granary)
- Indian Meal Moth
- Lesser Grain Borer
- Grain Beetles (Rusty, Saw-Toothed, Merchant)
- Flour Beetles (Red, Confused)
- Cigarette Beetle
- Warehouse Moth
- Warehouse Beetle

Items Protected

- Seed, flour, wheat, corn, rice and other grains
- Nuts, dried fruits, vegetables, cocoa and coffee beans
- Tobacco and other non-food items
- Processed foods
- Animal feed and feed ingredients

PRODUCT BENEFITS

Advantages of VAPORPH₃OS phosphine fumigant compared to traditional fumigants:

- Non-flammable (after mixture with CO₂)
 - This eliminates spontaneous flammability associated with metal phosphides, which can cause fires within the fumigated space
- Fast-acting
 - Required concentration levels are achieved in hours, not days
- Easy application and control
 - Operators can easily vary concentration levels and exposure periods, ensuring elimination of all insect stages
- Enhanced worker safety
 - Product is dispensed directly into sealed storage or structure from the outside
- No waste generation or disposal
 - VAPORPH₃OS fumigant gas yields no waste by-products and is residue free
- Environmentally friendly
 - Unlike alternatives, VAPORPH₃OS fumigant gas will not harm the ozone layer
- Cost-savings compared to pre-blend ECO₂FUME[®] fumigant gas

Refer to Cytec's Material Safety Data Sheet, EPA approved product label and application manual for safe handling information

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