

VAPORPH₃OS[®] Phosphine Fumigant

Onsite Blending with Air

Description

VAPORPH₃OS phosphine fumigant is a cylinderized source of pure phosphine for the fumigation of post-harvest products or storage structures. VAPORPH₃OS is designed for use in conjunction with Cytec-approved blending equipment capable of diluting the phosphine concentration to below its lower flammability limit of 1.8% (vol.). On-site blending with the surrounding air as a dilution gas can achieve this result.



The resulting mixture of phosphine and air that is dispensed from the Horn Diluphos System (HDS)* blending equipment can be added directly to the fumigation space or existing recirculation systems. The on-site blending of VAPORPH₃OS with air is an attractive option when frequent fumigation is required. The portability of the blending equipment gives the fumigator flexibility in usage at multiple sites. It can also be installed at locations where centralized dispensing stations are beneficial.

- Net weight of VAPORPH₃OS phosphine fumigant per cylinder: 48.5 lbs./22kg
- Cylinder valve connection: CGA 350 (left-handed thread)
- Internal cylinder pressure: 500 psig@70°F
- Pressure of dispensed mixture: 1-2 psig (approximate)

Equipment

- VAPORPH₃OS gas can be blended on-site with the surrounding air using Cytec-approved blending equipment. The Horn Diluphos System (HDS)* is approved and available for this application. The 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 which monitor the blending and delivery of the fumigant while providing warnings and automatic shut-off if necessary. The HDS is a mobile unit designed to allow easy transportation to different sites.

Models	HDS 80	HDS 200	HDS 800	HDS 30	
Air flow m ³ /hr.	80	200	800	28	
Concentration PH ₃ , ppm	0-10,000	0-10,000	0-10,000	0-10,000	
PH, flow g/min.	19	47	190	1-6	
Power	South America	220-1 VAC, 4 Amp. 50 Hz.	380-3 VAC, 4 Amp. 50 Hz.	380-3 VAC, 26 Amp. 50Hz.	220-1 VAC, 4 Amp. 50Hz.
	U.S.A.	208-1 VAC, 6 Amp. 60 Hz.	208-3 VAC, 7 Amp. 60 Hz.	460-3 VAC, 26 Amp. 60 Hz.	110-1 VAC, 4 Amp. 60 Hz.
	Australia	240-1 VAC, 4 Amp. 50 Hz.	415-3 VAC, 4 Amp. 50 Hz.	415-3 VAC, 26 Amp. 50 Hz.	240-1 VAC, 4 Amp. 50 Hz.
Dimensions cm**	91(l)* 76(w)* 95(h)	90(l)*76(w)*95(h)	150(l)*101(w)*158(h)	33 (l)*75(w)*78(h)	

Technical Specifications

VAPORPH₃OS Formulation

- Phosphine (PH₃): 100%

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

Packaging

- High-pressure steel cylinder
- Gross weight of full cylinder: 191-195 lbs. (87-89 kg)
- Gross weight of empty cylinder: 143-147 lbs. (65-67 kg)

* Available from Fosfoquim - www.fosfoquim.cl or www.fosfoquimusa.com

** Dimensions do not include cylinders.

Fumigation Capabilities

- One (1) cylinder of VAPORPH₃OS is capable of fumigating 2,750,000 ft³ (77,882 m³ or ~ 2,210,000 bushels)

* Available from Fosfoquim - www.fosfoquim.cl or www.fosfoquimusa.com

Approved Storage and Applications Include*

Storage

- Bins and silos
- Warehouses
- Tarps and bunkers
- Railcars, ship-holds, sea containers and trailers
- Mills and food processing plants

Storage size limitations: none

Items Protected

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

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

*Refer to approved application manual for complete list of storages, applications and target pests.

Product Benefits

Advantages of VAPORPH₃OS with air, compared to traditional fumigants, include:

- Non-flammable (after mixture with air)
 - This eliminates spontaneous flammability associated with metal phosphides, which can cause fires within the fumigated space
- Non reactive with moisture or water

- Fast-acting
 - Required concentration levels are achieved in minutes or hours, not days
 - Only approved phosphine fumigant for 24 hour exposure time
- 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. External applications eliminate confined space entry scenarios.
- No waste generation or disposal
 - VAPORPH₃OS yields no waste by-products, or dust residue that require retrieval and proper disposal
- Environmentally friendly
 - VAPORPH₃OS will not harm the ozone layer
 - No effect on global warming
- Cost-effective

Safety Information

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

• Email: custinfo@cytec.com Worldwide Contact Info: www.cytec.com US Toll Free: 800-652-6013 Tel: (+1) 973-357-3193 •

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