

ECO₂FUME® Fumigant Gas

Description

ECO₂FUME fumigant gas is a ready-to-use, non-flammable mixture of phosphine and carbon dioxide that enables highly effective fumigation in a wide variety of sealed-storage applications. It is dispensed external to storage or structures using simple techniques which avoid applicator exposure,



eliminate confined space entry and enhance overall worker safety. ECO₂FUME fumigant gas disperses and penetrates foods and non-foods quickly. Internal concentration levels of phosphine can be managed by adjusting the amount of fumigant released from the cylinder at any stage of the fumigation. ECO₂FUME fumigant is quickly and easily aerated. It produces no waste by-products or dust residues, thus eliminating the hazardous deactivation and disposal issues typically associated with traditional fumigants.

Technical Specifications

ECO₂FUME Formulation

- Phosphine (PH₃): 2% (by weight)/2.6% by volume
- Carbon Dioxide (CO₂): 98%

Packaging

- High-pressure steel cylinder
- Gross weight of full cylinder: 211-215 lbs. (96-98 kg)
- Gross weight of empty cylinder: 143-147 lbs. (65-67 kg)
- Net weight of ECO₂FUME fumigant gas per cylinder: 68.34 lbs./31kg. (1.34lbs/620 grams PH₃)
- ECO₂FUME fumigant gas cylinders are packaged in steel racks (16 cylinders per rack)
- Total weight of cylinders and rack: ~3,650 lbs.
- Cylinder valve connection: CGA 350 (left-handed thread)
- Cylinder configuration: fitted with a “dip” tube
- Internal cylinder pressure: 838 psig@70°F

Equipment

- Stainless steel or hydraulic dispensing lines of suitable pressure rating and materials of construction*
- * Contact a Cytec technical representative for exact specifications

Dispensing Rate

- 0.4 - >36 lbs./min. ECO₂FUME fumigant gas, or 3.6 - >320 grams phosphine/min**
- ** Cylinders can be manifolded together to achieve higher-end dispensing rates

Fumigation Capabilities

- One (1) ECO₂FUME cylinder is capable of fumigating up to 78,000 ft.³ (2,209 m³ or 62,680 bushels)

Approved Storage and Applications Include*

Storage

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

Items protected

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

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 the approved application manual for a complete list of approved storage and applications and target pests.

Product Benefits

Advantages of ECO₂FUME fumigant gas compared to traditional fumigants include:

- Non-flammable
 - This eliminates spontaneous flammability associated with metal phosphides, which can cause fires within the fumigated space
 - Nonreactive with moisture or water
- Fast-acting
 - Required concentration levels are achieved in hours, not days
 - Only approved phosphine fumigant for 24 hour exposure time

- Easy application and control
 - ECO₂FUME is pre-mixed, and operators can easily vary concentration levels and exposure periods, ensuring elimination of all insect stages
- Enhanced worker safety
 - ECO₂FUME comes in ready-to-use cylinders that eliminate worker contact. External applications eliminate confined space entry scenarios
- No waste generation or disposal
 - ECO₂FUME yields no waste by-products, or dust residue that require retrieval and proper disposal
- Environmentally friendly
 - Unlike alternatives, ECO₂FUME will not harm the ozone layer
- Cost-effective

Safety Information

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

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