



U-PHOS[®] Phosphine Gas

Tech Sheet

Packaging:

- Steel cylinder total weight with product - 173.5 lbs. (78.7kg) or 174.5 lbs. (79.15kg) with nozzle
- Tare weight - ~136 lbs. (61.7kg)
- PH₃ weight 37.5 lbs. (17 kg)
- Height 60 in
- Diameter 9.25 in
- Cylinders shipped in steel racks (12 max)

Safety Limits:

TWA - 0.3 ppm (8-hour period)
 STEL - 1.0 ppm for 15 minutes

Fumigation Volume Examples:

- Capacity of 1 U-PHOS[®] cylinder @200 ppm: 2,128,125 cubic feet
- Capacity of 1 U-PHOS[®] cylinder @500 ppm: 851,250 cubic feet
- Capacity of 1 U-PHOS[®] cylinder @3,625 ppm: 117,413 cubic feet

One gram of phosphine (PH₃) will produce a concentration of 25 parts per million (ppm) in a volume of 1,000 cubic feet. This is the fundamental conversion used when calculating the amount of U-PHOS[®] needed to dose a space.

Temperature Specifications

Temperature	PPM	Duration
Below 32°F (0°C)	Do not fumigate	N/A
32-39°F(0-4°C)	Min 200 ppm, Max 3,625 ppm	Min Duration 6 days
40-53°F(5-12°C)	Min 200 ppm, Max 3,625 ppm	Min Duration 4 days
54-59°F(12-15° C)	Min 200 ppm, Max 3,625 ppm	Min Duration 3 Days
60-70°F(16-25°C)	Min 200 ppm, Max 3,625 ppm	Min Duration 2 days
80°F(≥26°C) & Above	Min 500 ppm, Max 3,625 ppm	Min Duration 24-36 hours

Restriction: After introduction and stabilization, the maximum concentration of phosphine maintained during fumigation must not exceed 2,500 ppm for fresh commodities, or 3,625 ppm for all other commodities

Commodity Dosage Ranges

Commodity	Dosage Range
Food/ feed commodities in bulk storage	500-3,625 ppm
Packaged commodities	500-2,250 ppm
Stored tobacco	200-1,250 ppm
Non-food products	500-2,250 ppm
Nuts, dates, or dried fruit in bulk or storage boxes	250-1,000 ppm
Space fumigations	200-1,500 ppm

$$\text{Grams of PH}_3 = (\text{Target Conc.} \times \text{Volume}) / 25,000$$

“Target” is the phosphine concentration to be achieved in parts per million (ppm)
 “Volume” is the empty volume of the space to be fumigated in cubic feet (ft.³)

To calculate the total amount of U-PHOS® Phosphine Fumigant required to dose a space:

$$1 \text{ gram PH}_3 = 25 \text{ ppm PH}_3 / 1,000 \text{ ft.}^3$$

$$1 \text{ pound of U-PHOS® Phosphine Fumigant} = 454 \text{ grams PH}_3$$

To calculate the total amount of U-PHOS® Phosphine Fumigant to be added to a space to re-establish the “Target” concentration:

$$\text{Grams of PH}_3 = (\text{Target Conc.} - \text{Actual}) \times \text{Volume}$$

“Actual” is the measured phosphine concentration in parts per million (ppm)
 “Target” is the phosphine concentration to be achieved in parts per million (ppm)
 “Volume” is the empty volume of the space to be fumigated in cubic feet (ft.³)

**U-PHOS® is a restricted use pesticide.
 Always read the label and SDS before use.**

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