

Stored product pests are a fact of life for commodities in storage, processing facilities, mills or food handling establishments. These pests must be controlled to protect the integrity of the facility, the equipment and the commodities produced there. At the same time, pest management practices should not damage the valuable assets located within the fumigated space. As millers and fumigators evaluate various stored product pest management options in light of the methyl bromide phase out, they should have a thorough understanding of the pros and cons of these treatments relative to their potentially damaging effects.

ProFume® gas fumigant offers fumigators, millers and processors a reliable solution for stored product pest control in the postharvest fumigation market. ProFume provides broad-spectrum control of stored product pests at all life stages without negatively affecting the commodity, facility or equipment.

“ There are several key advantages to ProFume...it is non-corrosive, non-flammable and odorless...”

– World Grain, “Searching for Options,” April 2003



Choosing a treatment that does not impact commodities

ProFume® gas fumigant is relatively non-reactive as a gas and does not cause off-flavors. It’s an odorless inorganic gas, and as such, does not form unpleasant odors. In addition, because of its low sorption properties, it does not combine with other materials to create off-odors or change a commodity’s quality characteristics. Controlled research trials conducted by Dow AgroSciences in cooperation with university experts have tested major commodities under a variety of circumstances including rates above those on the product label. Those trials demonstrated that ProFume will have no physical, chemical or taste effects on the quality of the product.

Alternately, methyl bromide is an organic gas with high sorption properties that may combine with other materials to cause sulfurous odors in fumigated facilities or on products.

Heat treatments can also have an adverse affect on commodities. Users have found that the performance characteristics of food products are likely to change when exposed to intense temperatures. For example, after exposure to heat treatments, wheat may not mill as well and flour may not bake as well because commodities tend to dry out when a heat treatment is utilized. (Burks, et al., 2000)

	ProFume® gas fumigant	Methyl Bromide	Heat	Phosphine pellets and tablets	Cylinderized Phosphine
Possibility of damage to, or effect on, commodity	<ul style="list-style-type: none"> • Low sorption • Does not react with materials to form unpleasant odors or off-flavors 	<ul style="list-style-type: none"> • High sorption • Materials containing high percentages of sulfur are likely to develop off-odors when exposed to high concentrations of methyl bromide 	<ul style="list-style-type: none"> • Performance characteristics of food products likely to change when exposed to these temperatures over time • Wheat does not mill as well, flour does not bake as well • Commodities dry out 	<ul style="list-style-type: none"> • Low sorption • No known effects on commodities when used according to label 	<ul style="list-style-type: none"> • Low sorption • No known effects on commodities when used according to label



Choosing a treatment that does not impact facilities or equipment

ProFume® gas fumigant is a non-flammable, odorless, colorless gas that rapidly penetrates and distributes quickly. It’s also non-corrosive so it’s an intelligent solution for use in sensitive areas having equipment and electronic devices.

Laboratory testing was conducted to verify that sulfuryl fluoride, the active ingredient in ProFume, has no negative effects on metals and computer equipment, items often found in modern mill facilities (Brigham, 1998).

No corrosive effects were observed when ProFume was used as directed, even after repeated exposures at high temperatures and high accumulated dosage over time.

Another effective fumigant, phosphine, may not be the best choice for mills and processing areas

Non-corrosive activity – ProFume will not damage equipment, electronics and/or buildings when used properly.

because it can corrode commonly used metals including copper, brass, gold and silver as well as cause damage to electrical systems unless special precautionary measures are taken. This corrosion can occur especially at high temperatures and high humidity. One cylinderized phosphine product label advises, “In most cases, all electronic equipment must be removed.”

Heat treatments can also have an adverse impact on facilities and equipment. The prolonged exposure to intense temperatures may cause damage to wood, electronics, computers, sprinkler heads, belt drives, plastic pipes or tubing, wood sifters, aerosol cans, pressurized cylinders, fire extinguishers, packaging materials and more. Furthermore, the structure itself may be inadequate to handle the high temperatures.

Sulfuryl fluoride, the active ingredient in ProFume, has been used for the fumigation of residences and office buildings for more than 40 years without harming sensitive electronic equipment such as computers and commercial machinery or the structure itself. Millers and processors can feel confident that their facilities and equipment are not affected when using ProFume.

Non-flammable – As an odorless, colorless gas, ProFume rapidly vaporizes and is not flammable or explosive.

Dow AgroSciences

ProFume®

Gas Fumigant

	ProFume® gas fumigant	Methyl Bromide	Heat	Phosphine pellets and tablets	Cylinderized Phosphine
Possibility of damage to equipment or building	<ul style="list-style-type: none"> • Will not damage equipment, electronics and/or buildings when used properly • Has no negative effects on computer equipment or metals (Brigham, 1998) • No corrosive effects when used according to label • Non-flammable 	<ul style="list-style-type: none"> • Will not damage equipment, electronics and/or buildings when used properly • Non-flammable 	<ul style="list-style-type: none"> • Heat may damage electronics, computers, sprinkler heads, belt drives, plastic pipes or tubing, wood sifters, aerosol cans, pressurized cylinders, fire extinguishers, sensitive ingredients, vitamins, packaging materials, etc. • Heat may damage equipment (manufacturer should advise on specs to each specific piece of equipment) 	<ul style="list-style-type: none"> • Spontaneous ignition may occur if large quantities are piled in contact with liquid water • Phosphine may react with certain metals and cause corrosion, especially at higher temperatures and relative humidities • Electronic equipment should be protected or removed before fumigation 	<ul style="list-style-type: none"> • Under high vacuum conditions, phosphine gas may cause an explosive hazard • Phosphine may react with certain metals and cause corrosion, especially at higher temperatures and relative humidities • In most cases all electronic equipment must be removed

In the end, it is important to choose a stored product pest management option that effectively controls pests and does not damage facilities or commodities. ProFume provides broad-spectrum control of stored product pests at all life stages without negatively affecting the commodity, facility or equipment. Fumigators, millers and processors can count on ProFume® gas fumigant to get the job done.

Low reactivity – As a gas, ProFume does not react with materials to form unpleasant odors or change baking characteristics.

Targets pests while protecting commodities, facilities and equipment.

Count on ProFume® gas fumigant to get the job done.



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ProFume is a federally Restricted Use Pesticide. Always read and follow label directions.

