



SERAFUME* GRAIN FUMIGANT

CONTROLS INSECT PESTS IN FARM STORAGE AND COUNTRY ELEVATORS

Active Ingredients 100%
 Carbon Tetrachloride 76.5%; Carbon Bisulfide 10.0%
 Ethylene Dichloride 10.0%; Ethylene Dibromide 3.5%
 E.P.A. Registration No. 464-187-AA

GENERAL INFORMATION and SAFETY PRECAUTIONS

The successful use of liquid grain fumigants depends upon several details. 1 All grain storages should be tightly built. Before applying the fumigant, seal the structure as gas-tight as possible, especially below the surface of the grain. 2 Have the grain surface level and no higher than six inches below the top of the bin sides. 3 Apply the fumigant in a safe manner from **outside** the building if at all possible. During actual application, **always** have someone on hand to help in case of accident. Have him stand outside where he can see the man working inside. If it is necessary to enter a large bin for application or to enter an area already under fumigation, wear a **suitable gas mask**, such as a full-face mask for organic vapors with a FRESH black canister which should be replaced after 1/2 hour exposure. 4 Apply fumigant uniformly with a hand or power sprayer, replacing the nozzle with a tube or pipe flattened at the end to deliver a broad, coarse stream. 5 After treatment, do not disturb the grain for at least three days, and preferably for a week (except as recommended below). 6 Do not fumigate oftener or at higher dosages than recommended here. 7 Best results are obtained during cool, calm periods of the day, since high air temperatures and strong winds increase vaporization and loss of the fumigant.

In fumigating, the temperature of the grain itself is important, rather than the temperature of the air outside the grain mass. It is not advisable to fumigate grains other than rice when the average grain temperature is below 60° F. Even with rice, it is better to fumigate when grain temperature is above 60° F, since at lower temperatures the insects are relatively inactive, and the fumigant is less effective because of its reduced volatility. Several methods are available for determining grain temperature. Consult your dealer or other authorities for suggestions.

NOTE: For better insect control, use a grain bin insecticide to treat the inside of the bin 10 to 14 days before filling, and the outside of the bin just before fumigation.

Dispose of wastes by burying in non-crop lands away from water supplies. Containers should be disposed of by punching holes in them and burying with wastes.

DIRECTIONS

FARM STORAGE: Fumigate farm-stored grain with SERAFUME within six weeks after putting it into storage. If the grain is held into a second season, re-treatment may be required after the onset of warm weather following winter storage. For a **single** bin fumigation, if there is **standing headroom** in the bin, the fumigant may be applied by pouring it over the grain surface directly from the can, **but** if this requires more than 5 minutes, or if more than one bin is treated on the same day, **wear a gas mask. Avoid prolonged or repeated exposure to fumigant vapors.**

COUNTRY ELEVATOR STORAGE: Fumigate grain with SERAFUME when it is being put into the bin or being turned. The fumigant may be pumped or poured over the grain

between drafts, which should not exceed 15-foot depths in the bin. Give double dosages to top and bottom drafts. Under conditions of long storage or intense insect attack, retreatment may be necessary. Need for it may be determined by observation of live insects or by overheating of grain because of insect activity.

BULK CERTIFIED OR HYBRID SEED GRAIN: Bulk seed grain may be fumigated by strict adherence to dosage recommendations, and by observing the following precautions to avoid damage and loss of seed viability: (1) The moisture content of the seed must be less than 12% and preferably less than 10%. (2) The seed temperature during exposure period should be between 65° F. and 85° F. (3) The fumigant exposure period should not be more than 24 hours, and provision must be made to remove the fumigant by aeration immediately after the 24 hour exposure. This may be accomplished in tight structures by the use of aeration fans, and in loosely constructed storages by breaking all seals applied when preparing for fumigation. Do not fumigate low viability seed, as germination may be further reduced. See SAFETY PRECAUTIONS.

RECOMMENDED DOSAGES

| Grain Temperature 60 F. or Higher | Types of Storage | Gallons per 1000 Bushels* | | |
|-----------------------------------|-----------------------------|---------------------------|------------|----------------|
| | | Wheat, Rye, Barley | Corn, Oats | Grain Sorghums |
| Farm Storage | Wooden Bins | 4 | 6 | 8 |
| | Steel Bins | 3 | 5 | 7 |
| Country Elevator Storage | Wooden Cribbed Bins | 3 | 6 | 8 |
| | Steel and Concrete Bins | 2 | 4 | 6 |
| Box Cars (at Country Elevators) | Average Conditions and Load | 5 | 8 | 12 |

* Note: For lots of 500 to 1000 bushels, use the same dosage as recommended for 1000 bushels. With smaller lots, wet the entire surface with fumigant.

RICE: For farm-stored rice, use 4 gallons of SERAFUME per 1000 bushels if average grain temperature is 75° F. or above. If temperature is between 60° F. and 75° F. use 6 gallons per 1000 bushels. If necessary to fumigate when grain temperature is below 60° F. use 8 gallons per 1000 bushels. **For rice stored in large elevators,** reduce dosage by about one-third. See SAFETY PRECAUTIONS.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

SEE YOUR LOCAL AGRICULTURAL EXPERIMENT STATION OR EXTENSION SERVICE SPECIALISTS FOR GENERAL INFORMATION.

Note: Do not use containers or handling equipment of aluminum, magnesium, or their alloys, as under certain conditions SERAFUME may be severely corrosive to such metals.

SPECIMEN LABEL

AGRICULTURAL CHEMICAL

Do Not Ship or Store with Food, Feeds, or Clothi

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este pr hasta que la etiqueta le haya sido explicada ampliamente.

TRANSLATION: (TO THE USER: If you cannot read English, do not u product until the label has been fully explained to you.)

DANGER POISON

**KEEP OUT OF REACH OF CHILDREN
 HAZARDOUS VAPOR AND LIQUID
 MAY BE FATAL IF INHALED OR SWALLOWED
 CAUSES SKIN IRRITATION AND BLISTERS ON CONTACT
 MAY CAUSE EYE IRRITATION**

**Use Only with Adequate Ventilation • Do Not Breathe Vapor
 Do Not Take Internally • Avoid Contact with Eyes, Skin and Clothing
 When Necessary, Use Gas Mask Suitable for Organic Vapors**

In case of skin contact, wash with soap and water. For eyes, flush with plenty of water for at least 15 minutes and get medical attention. Remove and wash clothing before re-use. Do not wear shoes until free of all chemical odor.

If illness results from inhalation, remove to fresh air and call a physician immediately. If swallowed, call a physician immediately. Induce vomiting by giving emetic such as 2 tablespoonsfuls of salt in a glass of warm water.

Do not use fumigated material or feed it to livestock until aeration has eliminated the odor of the fumigant.

To prevent thermal decomposition, avoid contact with flame or hot surfaces. Thermal decomposition may form highly poisonous phosgene gas.

CLASSIFIED BY UNDERWRITERS LABORATORIES, INC. AS TO FIRE HAZARD SERAFUME CLASSED 1 TO 5 LESS HAZARDOUS THAN PARAFFIN OIL IN RESPECT TO FIRE HAZARD.

SEE UL INDEX OF CLASSIFIED PRODUCTS 993P

**STORE IN A TIGHTLY CLOSED CONTAINER IN A COOL LOCATION
 AWAY FROM DWELLINGS • KEEP FUMIGANT PROPERLY LABELED**

THE DOW CHEMICAL COMPANY

AND SUBSIDIARIES

MIDLAND, MICHIGAN 48640, USA ZURICH, SWITZERLAND HONG KONG

CORAL GABLES, FLORIDA 33134, USA SARNIA, ONTARIO, CANADA

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REVISIONS INCLUDE: (1) UL CONTROL NUMBER ADDED (2) AGRICULTURAL CHEMICAL STATEMENT ADDED.

