

**PRECAUTIONARY STATEMENTS****HAZARDS TO HUMANS & DOMESTIC ANIMALS****DANGER  POISON**

Poisonous Liquid and Vapor  
Do Not Breathe Vapor

Highly Volatile Liquid Under Pressure  
Liquid Very Injurious To Skin and Eyes  
(Contact May Cause Serious Burns)

Do Not Get In Eyes, on Skin, or on Clothing or Shoes  
Penetrates Many Kinds of Protective Clothing

Wear goggles and protective clothing of polyethylene when handling. Do not wear rubber clothing. Wear a full-face mask with black canister suitable for organic vapors, as specified by NIOSH, or an approved self-contained breathing apparatus.

Do not allow re-use of contaminated clothing or shoes until free of fumigant, for shoes, aerate for at least one week.

**PHYSICAL OR CHEMICAL HAZARDS**

*Gaseous liquid under pressure*

**DIRECTIONS FOR USE**

*It is a violation of federal law to use this product in a manner inconsistent with its labeling.*

**FOR USE BY PEST CONTROL OPERATORS/OTHER TRAINED PERSONNEL**

**STORAGE AND DISPOSAL**

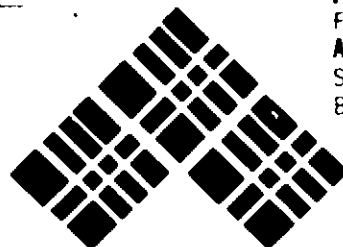
**STORAGE:** Store in a cool place — away from dwellings. Do not remove protective caps until cylinder is in position for connections to be made. **Leaking cylinders:** Evacuate area (or building) and do not allow unprotected individuals in area until clear of gas. If desired, cylinder may be moved to a safe place by an experienced individual wearing proper personal protective devices.

**DISPOSAL:** Close valve clockwise or to the right, hand tight. Disconnect lines and replace both the small and large protective caps. Return empty cylinders by following instructions on POISON/Shipping tag attached to cylinder cap. Cylinders containing product should be returned only after contacting manufacturer for proper shipping instructions.

**NOTICE TO BUYER/USER:** State and/or local laws and regulations restrict the use of the material in many localities. Consult local pesticide authorities for regulations restricting your proposed usage. Comply with laws and regulations.

See attached pamphlet for specific use directions and precautions.

SELLER MAKES NO WARRANTY EXPRESS OR IMPLIED, CONCERNING THIS MATERIAL OR THE USE OF THIS PRODUCT OTHER THAN INDICATED ON THE LABEL. BUYER ASSUMES ALL RISK OF USE AND OR HANDLING OF THIS MATERIAL WHEN SUCH USE AND OR HANDLING IS CONTRARY TO LABEL INSTRUCTIONS.



**RESTRICTED USE PESTICIDE**  
FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION

**NAMCO**

**NAMFUME** (METHYL BROMIDE ODORIZED WITH CHLOROPICRIN)

For use as an aid in the control of structural pests, household insect pests, and as a pre-plant soil treatment.

**ACTIVE INGREDIENTS:** Methyl Bromide  
Chloropicrin

99.75%  
0.25%

**KEEP OUT OF REACH OF CHILDREN****DANGER  POISON****STATEMENT OF PRACTICAL TREATMENT****SEEK IMMEDIATE MEDICAL ASSISTANCE IN CASE OF POISONING**

**If inhaled:** Carry patient to fresh air. Get medical assistance at once. Make sure patient can breathe freely. Keep patient warm and quiet. Give artificial respiration if breathing has stopped. Oxygen should be administered only by qualified personnel. **In case of contact:** For skin, immediately remove all contaminated skin coverings including shoes, clothing, personal articles and adhesive or other bandages. Wash skin thoroughly with soap and running water. If irritation or blisters develop get medical attention. For eyes, flush thoroughly with plenty of water for at least 15 minutes and seek immediate medical attention. **Note to Physician:** Keep patient at rest and under observation for 24 to 48 hours. Secondary infection of burns (blisters) are common.

SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS!

**BEST AVAILABLE COPY**



Manufactured By  
**Van Waters & Rogers**  
division of **Univar**  
San Mateo, CA 94403

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(EPA Reg. No. 550-131-AA)

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## GENERAL PRECAUTIONS

- Fumigated areas must be clearly and prominently marked with signs indicating the fumigant name and hazard. Signs should be placed at the entrance and exit of the fumigated area and at the top of the fumigation structure. Signs should be placed at the entrance and exit of the fumigation structure. Signs should be placed at the entrance and exit of the fumigation structure.
- Do not move trucks, vans, trailers or other equipment into the fumigated area until the fumigation is completed.

## STRUCTURAL PESTS

For use as an aid in the control of structural pests, termite, Lyctid or powder post beetle, wood-boring insects, dead-end beetles, household spiders, flies, beetles, spiders, ants, termites, carpenter bees, and other pests of garages, barns, buildings and other structures. Also for use in fumigating pest-infested and other articles required to be treated by State or local laws and regulations.

**Preparation For Fumigation:** Remove from the structure all fumigated goods and items, including plants, perennials, and other plants. Also remove all food and items that are susceptible to the fumigant, including pet foods, toys, and other items. Also remove all items that are susceptible to the fumigant, including pet foods, toys, and other items. Also remove all items that are susceptible to the fumigant, including pet foods, toys, and other items.

**Dosage And Exposure Time:** For general fumigation, use 1.0 lb. of fumigant per 1000 cu. ft. of space to be treated. For structural fumigation, use 1.0 lb. of fumigant per 1000 cu. ft. of space to be treated.

**Releasing The Fumigant:** Release the fumigant by opening the structure and allowing the fumigant to enter. For structural fumigation, release the fumigant by opening the structure and allowing the fumigant to enter. For structural fumigation, release the fumigant by opening the structure and allowing the fumigant to enter.

**Aeration:** After the fumigation is complete, aeration should be done to remove the fumigant from the structure. For structural fumigation, aeration should be done to remove the fumigant from the structure.

## USE PRECAUTIONS

Due to the presence of hydrogen cyanide, do not use in the presence of living plants, fresh fruits or vegetables.

Do not use in the presence of live animals, including birds, mammals, and reptiles. Do not use in the presence of live animals, including birds, mammals, and reptiles.

Fungicide, and the Fungicide Act,  
as amended, for the fungicide  
registered under  
EPA Reg. No. 550-131

101

# ORCHARD & VINEYARD PLANTING SITE FUMIGATION

NAMCO Namlume may be used as an aid in controlling nematodes (citrus burrowing and root knot nematode), fungus diseases (*Armillaria mellea* - Oak Root Fungus, *Phytophthora* root and crown rot) and other soil-borne organisms and weeds in land to be planted or replanted to deciduous fruits and nuts, citrus and vineyards - WHERE THE CROPS WILL NOT BE HARVESTED FOR A PERIOD OF AT LEAST 24 MONTHS.

## RATES & PRECAUTIONS:

**FOR CITRUS BURROWING AND ROOT KNOT NEMATODE** Apply 1 1/2 pounds per 100 square feet

**PHYTOPHTHORA ROOT ROT** Apply 1 1/2 pounds per 100 square feet and a 4 day exposure using tarping

**OAK ROOT FUNGUS (*Armillaria mellea*):** To facilitate deep penetration to the fumigant, the soil should be as dry as possible. This may be accomplished by allowing weeds to grow either without irrigation or by planting a crop of Sudan grass in the spring and withholding moisture throughout the summer. In the fall, the soil should be further prepared as described elsewhere. Rates vary from 1 - 1 1/2 pounds in sandy soils to 2 pounds per 100 square feet in clay loam soils. Peat and soils high in organic matter should not be fumigated for *Armillaria*. NOTE: Complete eradication of *Armillaria* is difficult and rarely achieved. Retreatment of scarified areas should be made as necessary.

## APPLICATION METHODS:

**BACKHOEING AND AUGERING:** Remove soil to a depth of 3 feet or as desired, haul it to a pile with a 2 foot insert applicator tube or tree site injector 1/2 inch and release the dose of fumigant for 100 square feet beneath. After removal of applicator, prevent too rapid escape of fumigant by tamping or compacting soil around.

**TREE SITE INJECTION:** Insert the injector at a 45 degree angle at least 10 inches into the soil. Tamp soil tightly about injector to minimize escape of fumigant from soil. Release and tie up edge of fumigant tarpaulin around tree site and move away from the injector until fumigant is completely released. Remove tarpaulin and seal the hole with soil.

**Work up the area:** Work up the area to a depth of 3 feet. Place the end of the applicator into an evaporating container in the center of the site. After the applicator tube is beyond the area to be treated, the tarp should be completely sealed above the soil surface with the gas and sea edge seals around the edges with soil. Attach the applicator tube to container, release fumigant, move applicator tube and sea edge sealed over to place for 48 hours with *Phytophthora* the cover should be left in place for 4 days.

**TRACTOR DRAWN INJECTION EQUIPMENT:** For *Armillaria mellea*, the soil should be tilled as deep as possible (30 inches minimum) and furrows worked to a minimum depth and depth prior to fumigation. Inject the material not less than 20 inches deep from the spaced holes (more than 5 feet apart). The area should be cut packed (not permitted in California) or covered with a gas tight tarpaulin immediately after injection. The tarpaulin should be allowed to remain in place for at least 7 days. Strip fumigation is permissible.

**SOIL FUMIGATION:** To aid in the establishment of grape vineyards in land with high weed populations and nematodes, apply the fumigant at the rate of 30 to 400 pounds per acre calculated on the basis of actual area treated centering on the future stake line. Inject the fumigant using tractor drawn equipment 6 to 10 inches deep and cover immediately with a gas tight tarpaulin. Note: This method is most effective when the soil is moist and worked for seedbed conditions prior to treatment.

## SEED AND PLANT BED FUMIGATION

Preplant treatment of soil or other planting media with NAMCO Namlume will aid in the control of the following soil-borne pests: insects (wireworms), nematodes, leachworms or root-knot, citrus sting, stubble rot, dagger, cyst nematodes, *Sclerotinia*, *Verticillium* and *Fusarium* wilt, damping-off, some broad leaf and grassy weeds and other weeds.

**Prepare Seed or Plant Bed as You Would For Planting:** The soil of areas to be treated should be worked to the loose condition just prior to treatment. Soil should be free of clods and unbroken seed pieces. In deep loam or sandy soil, the fumigant will effectively penetrate only as deep as the soil is properly worked, except in loose soil.

After the soil has been prepared, make a furrow or trench around the margins. This will provide an escape and alternate way of sealing the gasproof cover by hiving its edges in the furrow before releasing the fumigant.

Decomposed compost and manure can be treated in the same manner. The material should be made a minimum of 70 to 80°F, be loose, and have sufficient moisture for good weed seed germination. If the material is not moist, it should be watered. If on a concrete floor and be leveled to not more than 18 inches in depth for application. If the soil is three feet or less, it can also be fumigated if perforated at 12 inch intervals. The gas should always be applied above the perforations with a diffusion of the gas. These materials in bulk or in flats and pots can also be treated in a gas tight container. Good soil fumigation is in a well-ventilated area or outdoors.

**Place Cover Supports at Regular Intervals:** Because the gas must circulate freely under the gasproof plastic cover to give satisfactory control, the cover should be supported above the evaporating containers. Do not allow the cover to be flat on the surface of the material to be treated during fumigation.

**Place Evaporating Containers in Prepared Bed. Insert Applicator Tubing in Containers:** Evaporating containers are essential for the volatilization and uniform dispersion of the fumigant. There may be tin pans or basins made of plastic covering. Evaporators should be placed at intervals of approximately 1/2 feet. NOTE: Evaporating containers are not needed if a gassed fumigant is used.

Attach one end of each end of polyethylene tubing to each evaporating container with soil or earth. Apply soil or other suitable weights so that the liquid is directed into the container. The other free end of the polyethylene tubing is attached to a hole in the cover so that the applicator can readily attach them to the polyethylene tubing containing the fumigant.

**Place the Gasproof Plastic Cover Carefully Over Area To Be Treated. Seal Edges Of The Cover With Dirt:** After the supports and tubing are in place, the gasproof cover should be laid with its edges in the furrow and sealed with earth. Enough earth should be used to cover the edges to a width of 6 to 10 inches, after which it should be tamped down firmly. Exercise care in preventing damage to cover. It is wise to place a shovelful of dirt on the edge of the cover every few feet as it is being laid to keep the wind from blowing it. The sides and other ends are then sealed tightly with earth.

**Applying The Fumigant:** The fumigant may be applied as either a liquid or a gas. The gas results from heating of the fumigant using a coil of copper tubing placed in heated water. This method eliminates the need for the evaporating container. In either case the container should be fitted with the proper adapters which allow the gas to be dispensed beneath the tarpaulin.

**Remove Cover After Recommended Exposure Period. Aerate. Prepare Seed or Plant Bed For Planting:** The minimum exposure period is 24 hours. If the soil temperature is below 60°F, a 48-hour exposure period is necessary.

**When To Plant After Treatment:** The treated soil must be aerated before planting. Some seeds, such as tobacco, can be planted 48 hours after the removal of the cover. A longer aeration period may be required before planting certain flower seeds. Usually a period of several days is necessary for proper soil aeration. Setting plants in treated soil after it has been aerated for a week to

## USE PRECAUTIONS

Every grower should use methyl bromide and/or chloropicrin containing fumigants on a small scale under his growing conditions for at least a full growing season before extensive use on any crop. These materials have given excellent results with a wide variety of soils and plants; however, for reasons not clearly understood, plant growth has occasionally been unsatisfactory following treatment. For example, some difficulty has been experienced with conifers, salvia, snapdragons, carnations, multiflora roses, holly, as well as certain other plants. The following precautions must be observed if good results are to be expected:

1. Fumigation with methyl bromide and/or chloropicrin fumigants sometimes slows down the rate of nitrification (the conversion of nitriles from ammonia by bacterial action). Certain ammonia sensitive plants, such as tomatoes, may suffer growth inhibition or stand reduction when planted in fumigated soils containing high amounts of ammonia nitrogen. To lessen this hazard at least 1/2 and preferably all of the nitrogen fertilizer added immediately before or soon after fumigation should be in the form of nitrate nitrogen. This hazard may also be reduced by delaying planting until several months after fumigation if a nitrate form of nitrogen such as sodium or calcium nitrate is not readily available. Ammonium nitrate used sparingly will supply the nitrogen needed without risk. Phosphorous, potassium and other plant nutrients should be used according to soil needs.

2. Fumigation should be made several months prior to planting most high organic matter soil and in particular peat heavily manured soils, since they seem more likely to undergo some change in soil structure and organic matter content following fumigation.

3. Do not treat very cold or very wet and very wet and dry soils.

4. Be sure treated plots are free from gas before planting seed or setting cuttings and there is sufficient soil aeration before working the soil after treatment, particularly when the soil is cold and dry.

5. Do not contaminate fumigated areas by walking from unfumigated to fumigated soil. Change your shoes if necessary. If the treated bed is in a location where flooding or washing is liable after planting, grower will make a trench around the treated area for proper drainage. Wooden stakes around the beds are also satisfactory for preventing this type of contamination.

6. Hay or straw treated directly or harvested from treated soils should be fed to dairy cattle.

**GAS MASKS:** A gas mask should always be worn whenever there is any possibility of exposure to methyl bromide or chloropicrin. Before entering an atmosphere containing methyl bromide or chloropicrin be sure to check the mask for leaks. This may be done by placing the hand over the bottom of canister and inhaling to determine if the face mask is airtight.

### SUGGEST MAXIMUM TIME (IN MINUTES) THAT CANISTERS SHOULD BE USED IN FUMIGATIONS

Type of Canister	Concentrations of methyl bromide in lb. per 1000 cubic feet			
	1 lb. or less	1 to 2 lb.	2 to 3 lb.	3 to 4 lb.
Super Black (For organic vapors)	120 min	60 min	45 min	30 min
Regular Size Black (For organic vapors)	60	30	22	15
Supersize Yellow (For acid gases and organic vapors)	30	20	10	5
Regular Size Yellow (For acid gases and organic vapors)	18	13	10	5
Red (All purpose)	18	13	10	5

**NOTE:** Destroy all used canisters by crushing outlet hose connections so that these cannot be mistaken for fresh canisters.

