

JAN 16 1992

Mr. J. Pearson
Pesticide Regulatory Specialist
ICI Americas, Inc.
Agricultural Products
New Murphy Road & Concord Pike
Wilmington, DE 19897

Dear Mr. Pearson:

Subject: Metam-Sodium Label Amendments
Vapam Soil Fumigant For All Crops
EPA Registration No. 10182-150
Vapam Soil Fumigant Solution
EPA Registration No. 10182-229
Your Application of December 19, 1991

Labeling you submitted pursuant to the agreement signed by the Metam-Sodium Task Force and the United States Environmental Protection Agency has been revised and found to be acceptable with the following comments:

For Vapam Soil Fumigant For all Crops, EPA Reg. No. 10182-150, make the following change (s) in the label.

- (1) Under Reentry and Worker Safety, following the first sentence in the third paragraph, add "(indicate specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time the field must be vacated and appropriate actions to take in case of accidental exposure)."
- (2) On page 11, indicate the benefit to be derived from the use of the tank mix with Tillam 6E.

For Vapam Soil Fumigant Solution, EPA. No. 10182-229, make the following change(s) in the label.

- (1) Under Reentry and Worker Safety, following the first sentence in the third paragraph, add "(indicates specific oral warnings which inform workers of areas or fields that may not be entered without specific protective clothing, period of time the field must be vacated and appropriate actions to take in case of accidental exposure)."
- (2) On page 10, in the second sentence of the first paragraph, change to "Drill holes in soil approximately ----".
- (3) Under Personal Protective Clothing and Equipment, paragraph 1, delete "chemigation equipment" since application through irrigation systems is prohibited elsewhere on the label.
- (4) One typographical error was noted under Use Precautions: "is" should be changed to "it" in the second sentence, "Vapam may severely injure any plants is comes in contact with."

Submit five (5) copies of the final printed label(s).

If you have any questions regarding this matter, please contact me or Sidney Jackson at (703) 305-7610.

Sincerely yours,



Susan T. Lewis
Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (H7505C)

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.

VAPAM®

Soil Fumigant Solution For Small Areas Use

ACTIVE INGREDIENT

Sodium methyldithiocarbamate (anhydrous) 32.7%

INERT INGREDIENTS: 67.3%
100.0%

*Contains 3.18 lbs. active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN

WARNING

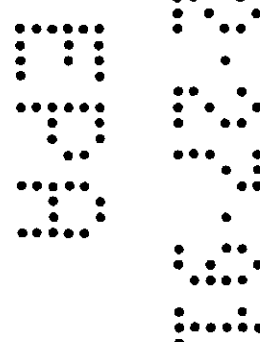
EPA Reg. No. 10182-229
EPA Est. No.

_____ Gal. Net. _____

Made in U.S.A. by
ICI Agricultural Products
A business unit of ICI Americas Inc.
Wilmington, DE 19897

This product is sold only for uses stated on its label. No express or implied license is granted to use or sell this product under any patent in any country except as specified: Country: U.S.A.

Under the Fungicide, Insecticide, and Plant Growth Regulator Act of 1947, as amended, this product is registered under EPA Reg. No. 10182-229



STATEMENT OF PRACTICAL TREATMENT

FIRST AID

Immediately start the procedures given below and contact a Poison Center, a physician, or the nearest hospital. Report the type and extent of exposure, describe the victim's symptoms, and follow the advice given.

IF ON SKIN: Immediately flush skin with large amounts of running water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately.

IF IN EYES: Immediately flush eyes with large amounts of running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eye and lids with water. Get medical attention immediately.

IF INHALED: Remove to fresh air. If not breathing, clear the victim's airway and start mouth-to-mouth artificial respiration. If breathing is difficult, give oxygen, preferably with a physician's advice. Get medical attention immediately.

IF SWALLOWED: Immediately give several glasses of water but do not induce vomiting. If vomiting does occur, give fluids again. Have a physician determine if condition of patient will permit induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE, CALL (800)-F-A-S-T-M-E-D (327-8633).

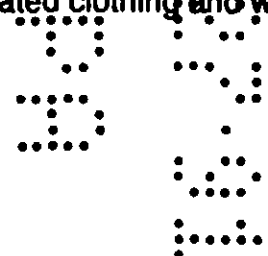
FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

MAY BE FATAL IF ABSORBED THROUGH SKIN. CAUSES SKIN AND EYE IRRITATION. HARMFUL IF SWALLOWED OR INHALED. PROLONGED OR FREQUENTLY REPEATED SKIN CONTACT MAY CAUSE ALLERGIC REACTIONS IN SOME INDIVIDUALS. Do not get in eyes, on skin, or on clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse.



ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Apply this product only as specified on the label.

USE PRECAUTIONS

~~KEEP OFF DESIRABLE LAWNS AND PLANTS. VAPAM may severely injure any plants that it comes in contact with. Therefore, you should read these use precautions carefully. Do not apply within 3 feet of the drip line of plants, shrubs or trees. Do not use in confined areas without adequate ventilation. Do not use in greenhouses where growing plants are present or where fumes may enter nearby houses containing growing plants. After mixing with water, do not allow solution to stand overnight. If fumes from partially treated and water sealed area become unpleasant, sprinkle more water over treated area. Rinse all equipment with water after each day's use. Keep children and pets out of treated area until dry. Do not store near food or feed. Keep container tightly closed when not in use. Do not store below 0°F.~~

KEEP CHILDREN AND PETS OUT OF TREATED AREA. KEEP OFF DESIRABLE LAWNS AND PLANTS. VAPAM may severely injure any plants that is comes in contact with. Therefore, read these use precautions carefully. Do not apply within 3 feet of the drip line of plants, shrubs or trees. Do not use in confined areas without adequate ventilation. Do not use in greenhouses where desirable plants are present or where fumes may enter nearby houses containing desirable plants. Keep container tightly closed when not in use. Do not store near food or feed. Do not store below 0°F.

After mixing VAPAM with water, apply immediately, do not allow solution to stand overnight. Rinse all equipment with water after each day's use.

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

1. The following protective clothing and equipment are required to be used by persons engaged in carrying out any operations that are likely to involve direct contact with VAPAM, including mixing/loading, equipment calibrations or adjustments, clean up and repair of application equipment (equipment includes but is not restricted to; chemigation equipment, shanks, tillers, drop lines, and holding tanks), sampling, cleanup of spills, fumigant transfer, and rinsate disposal, or by any other person engaging in activities likely to result in direct contact with the product. This protective equipment must also be used for any operations that are done within 6 feet of unshielded, pressurized hoses containing VAPAM.
 - a. A properly FIT TESTED NIOSH- or MSHA-approved half-face respirator with organic vapor cartridges plus non-venting chemical goggles, or a NIOSH- or MSHA-approved full-face respirator with organic vapor cartridges.
 - b. Body covering that has long sleeves and long pants. When a closed system is not used, mixers and loaders must also wear a chemical resistant apron or cloth coveralls.

- c. Chemical resistant gloves and boots.
2. The following protective clothing must be worn at all times by persons operating or monitoring application equipment or entering treated areas within 48 hours after completion of application. See: REENTRY AND WORKER SAFETY STATEMENT on this label.
- a. Chemical resistant footwear.
 - b. Body covering that has long sleeves and long pants.
3. The following protective clothing and equipment must be immediately available at all times for use by persons operating tractor drawn ground application equipment, or monitoring application equipment, or entering treated areas within 48 hours after completion of application. See: REENTRY AND WORKER SAFETY STATEMENT on this label.
- a. A properly FIT TESTED NIOSH- or MSHA-approved half-face respirator with organic vapor cartridges plus non-venting chemical goggles, or a NIOSH- or MSHA-approved full-face respirator with organic vapor cartridges. This equipment must be worn when the pungent, rotten egg odor of VAPAM is detected.
 - b. Chemical resistant gloves. These must be worn when a person is engaged in carrying out any operation that is likely to involve direct contact with the product, including operations listed in Paragraph (1), above.

REENTRY AND WORKER SAFETY

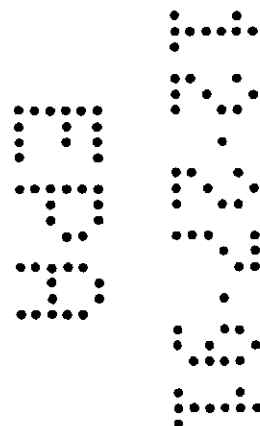
Do not apply this product in such a manner as to directly, or through drift, expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated area for 48 hours after application unless protective clothing is worn (Chemical-resistant footwear and body covering with long sleeves and long pants; and respirator, if odor is detected, and chemical-resistant gloves, if direct contact with product is involved.). Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in treated areas or in an area to be treated with this product.

Oral warnings must include the exact information specified in the written warnings. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers.

Written warnings must include the following information: **WARNING:** Area treated with metam-sodium on (DATE) _____. Do not enter without appropriate protective clothing for 48 hours after application. In case of accidental exposure, see STATEMENT OF PRACTICAL TREATMENT found on the VAPAM label.

- Posting is required if a tarp is not used to cover treated areas. Consult your State Department of Agriculture for further information.
- Posting is not required when a tarp is used to cover treated areas.



DIRECTIONS FOR USE

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

~~For treating seed beds, plant beds, renovating lawns, establishing new lawns, fumigating potting soil.~~

Do not apply this product through any type of irrigation system.

PRODUCT INFORMATION

VAPAM® is an easy-to-use water solution of highly effective soil fumigant. It can be used prior to planting a lawn or when preparing a new flower bed or vegetable garden, as an aid in the control of weeds, certain nematodes which attack plants, and common soil-inhabiting plant disease fungi. When properly applied, VAPAM releases a gaseous fumigant to the soil. This gas later dissipates, leaving the soil ready for planting.

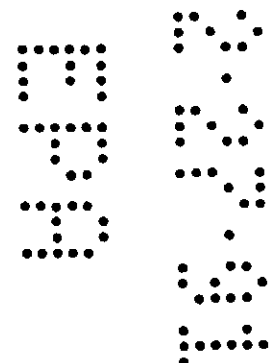
TARPING REQUIREMENTS

The use of a tarp is required when (Product Name) is applied near (within 1/2 mile) populated areas such as residential areas, schools, hospitals, commercial or office buildings, factories, etc. Follow the TARPING DIRECTIONS section below. When a tarp is used according to the directions below, posting is not required.

When the area to be treated is more than a half mile from populated areas such as residential areas, schools, hospitals, commercial or office buildings, factories, etc., the use of a tarp is not required. Read and carefully observe the REENTRY AND WORKER SAFETY STATEMENT on this label.

TARPING DIRECTIONS

After applying VAPAM, immediately sprinkle treated area with water to seal the soil. Sprinkle to the point of runoff. **NOTE: DO NOT ALLOW WATER TO RUN OFF OF TREATED AREA AS PLANTS IN ADJOINING AREAS MAY BE DAMAGED.** Immediately cover treated area with plastic tarp. Do not wait until the entire area is treated to begin covering, but immediately cover each 100 square feet of area. Weight the tarp down around the edges to prevent wind or inadvertent removal of tarp. **NOTE: WEIGHTS MUST BE HEAVY ENOUGH TO DETER ANIMALS AND CHILDREN.** Do not remove tarp for 48 hours.



USES, APPLICATION METHODS AND RATES FOR SHALLOW PESTS IN SEEDBEDS, PLANTBEDS, LAWNS AND OTHER LIMITED AREAS

BEFORE APPLYING VAPAM

~~A week before applying VAPAM, cultivate the area to be treated, breaking up clods and loosening the soil deeply and thoroughly. Keep soil moist and bring area to final grade and seedbed condition. This step is essential to good results.~~

A week before applying VAPAM, always thoroughly cultivate the areas to be treated, breaking up clods and loosening soil deeply and thoroughly. Moisten the soil after cultivation to the desired depth. If the soil has crusted, cultivate lightly immediately before application.

AFTER APPLYING VAPAM

~~VAPAM should be sealed into the soil by sprinkling after application, wetting the soil to a depth of 3-5 inches. Sprinkle lightly so water does not puddle. Keep soil surface wet for 2-3 days after application—then let dry out.~~

~~The use of a plastic tarp or other covering over the treated area greatly improves the action of VAPAM. When using a cover, do not wait until the entire area is treated to begin covering but cover each 100 square feet as it is treated, immediately. Weight the tarp around edges to prevent wind from lifting. Keep covered for two days and then remove. Seven days after applying VAPAM, rake the treated area. Do not rake deeper than 2 inches. If weather is warm and dry, plant after 2 weeks. If weather is cold and wet, rake the soil frequently and do not plant for 4 weeks.~~

After applying VAPAM, immediately sprinkle treated area with water to seal the soil. Sprinkle to the point of runoff. **NOTE: DO NOT ALLOW WATER TO RUN OFF OF TREATED AREAS AS PLANTS IN ADJOINING AREAS MAY BE DAMAGED.** Carefully read and follow the TARPING REQUIREMENTS and TARPING DIRECTIONS sections of this label.

~~Seven days after applying VAPAM, rake the treated area. Do not rake deeper than 2 inches. Seven days after applying VAPAM, cultivate the treated area to a depth of 2 inches to aerate the soil. If weather is warm and dry, plant after 2 weeks. If weather is cold and wet, rake the soil frequently and do not plant for 4 weeks.~~

APPLICATION METHODS AND RATES

SPRINKLING CAN: Place 1 pint VAPAM (1-½ pints on very heavy soils or for deep-rooted weeds) in a sprinkling can, fill with water, stir, and sprinkle uniformly over 50 square feet of well-prepared soil. Sprinkle immediately with water until soil is sealed and no odor of VAPAM can be detected.

HOSE-END SPRAYERS (lawn or fertilizer type): Fill container with 1 pint of VAPAM and spray uniformly on 50 square feet of well-prepared soil. Continue to spray with water until VAPAM odor cannot be detected.

ROTARY TILLER: Spray or sprinkle diluted VAPAM immediately in front of tiller. Use 1 qt. VAPAM in 2½ gal. water per each 100 sq. ft. Follow immediately with a roller to smooth and compact the soil surface. Light watering or a tarp after rolling will help prevent gas escape.

FUMIGATING POTTING SOIL

A. TREAT YOUR SOIL IN WHEELBARROW OR GARBAGE CAN:

Put a 4-inch layer of soil mix in the container and sprinkle surface evenly following the table below. Add another 4-inch later and repeat sprinkling. Repeat until container is full. Cover with plastic or container lid for 48 hours. The plastic or lid should be weighted down to prevent wind or inadvertent removal of lid or tarp. **NOTE: WEIGHTS MUST BE HEAVY ENOUGH TO DETER ANIMALS AND CHILDREN.**

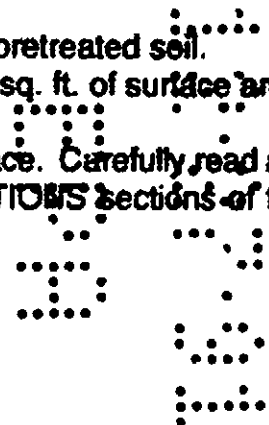
AMOUNT OF VAPAM TO USE FOR EACH 4 INCHES OF SOIL		
Diameter of Can	Teaspoons of VAPAM	Water
10"	½ tsp.	4 oz. (¼ pint)
12"	¾ tsp.	6 oz.
15"	1-¼ tsp.	10 oz.
20"	2-¼ tsp.	18 oz.

Mix the VAPAM with the water then sprinkle the soil. For larger areas of potting soil, use VAPAM at a rate of 1 teaspoonful in 8 oz. (½ pint) of water per square foot. After 5-7 days the treated soil should be shredded or turned or mixed to aerate and help release any VAPAM still in the soil.

The treated soil mixture should then be left for 14 more days before it is put into storage sheds or bins.

B. SPRINKLE METHOD:

- Spread soil in a smooth layer 4 inches high on concrete or on pretreated soil.
- Spread VAPAM at a rate of 1 pint in 5 gallons of water per 100 sq. ft. of surface area.
- Layers can be treated one on top of another.
- Sprinkle top layer with sufficient additional water to seal the surface. Carefully read and follow the TARPING REQUIREMENTS and TARPING DIRECTIONS sections of this label.



C. CEMENT MIXER:

- Add VAPAM to soil mix at rate of 1 fl. oz. VAPAM per 2 cu. ft. of soil, in cement or similar mixer. Mix thoroughly.
- After soil is treated and piled, sprinkle water over entire surface. Carefully read and follow the TARPING REQUIREMENTS and TARPING DIRECTIONS sections of this label.

D. SHREDDER:

- Dilute VAPAM in sufficient water to obtain even distribution. As soil is ejected from shredder, spray uniformly on soil stream at rate of 1 fl. oz. VAPAM per 2 cu. ft. of soil.
- After all soil is treated and piled, apply light water seal to entire surface. Carefully read and follow the TARPING REQUIREMENTS and TARPING DIRECTIONS sections of this label.

NOTE: It is very important that the VAPAM treated soil is thoroughly aerated and dry before being used.

TREATMENT OF TREE REPLANT SITES

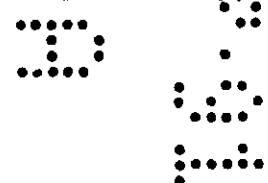
Carefully read and follow the TARPING REQUIREMENTS and TARPING DIRECTIONS sections of this label.

After removing dead or diseased tree and as much of the root system as possible, make a shallow basin over the planting site. Add VAPAM to the stream of water while filling the basin. Use 1 qt. VAPAM per 100 sq. ft. in sufficient water (depending on soil type) to penetrate at least 6 ft. For control of Oak root fungus, use a basin at least 20 x 20 ft. square. Increase dosage to 2 qt. VAPAM per 100 sq. ft. in sufficient water to penetrate to the depth of root system. If water is tanked to the planting site, add VAPAM to the water and mix before filling basin.

PREVENTION OF ROOT GRAFT TRANSMISSION OF DUTCH ELM AND OAK WILT DISEASE

Read and carefully observe the TARPING REQUIREMENTS and TARPING DIRECTIONS sections of this label.

Immediately after tree is diagnosed as having Dutch Elm or Oak Wilt disease, ~~isolate~~ the diseased tree from healthy trees with the VAPAM treatment. If a diseased tree is less than 20 feet from a healthy tree or has advanced wilt symptoms, it may be necessary to treat at two sites - one between the diseased and the first healthy-appearing tree and one between the first and second healthy-appearing trees. This measure is advisable because the causal fungus may have already passed from the diseased to the first healthy-appearing tree before VAPAM was applied.



Use VAPAM diluted one part to three parts water for Dutch Elm disease and diluted one part to ten parts of water for Oak Wilt disease. Drill holes approximately 3/4 to 1 inch in diameter, 15 inches deep to 6 to 9 inches apart. Fill each hole with diluted VAPAM to within 2 inches of the soil surface.

Make the line of treatment sufficiently long to kill all roots of the two adjacent trees that are likely to be root-grafted. Apply the chemical slowly and carefully to avoid overflowing the drilled holes; this will reduce grass kill. Tamp each hole closed with the heel. Allow at least two weeks after treatment before removing the diseased tree.

IMPORTANT INFORMATION

If the soils have remained wet or cold (below 40°F at 3" level) do not plant for 4 weeks or longer and aerate soils again to speed release of gases.

No crop should be planted until all odor has left the soil. As an added precaution, 10 days after application, plant a few radish seeds which should germinate in about 5 days. If plants are normal, the treated area is safe to plant.

DO:

1. Read the label and follow all manufacturer's directions.
2. Use only when ground temperature 3 inches deep is over 40°F and less than 90°F. In the colder parts of the country, the soil is usually warm enough when the spring flowering shrubs such as forsythia are blooming.
3. ~~VAPAM can be irritating to the skin. We recommend using rubber gloves and rubber boots when applying VAPAM.~~ Read and carefully observe the PROTECTIVE CLOTHING AND EQUIPMENT REQUIREMENTS and REENTRY AND WORKER SAFETY sections of this label.
4. If VAPAM is splashed on body, wash immediately, apply soothing ointment and remove contaminated clothing.
5. Clean equipment by rinsing thoroughly in running water.

DO NOT:

1. Do not use VAPAM unless you are prepared to follow all directions completely.
2. Do not apply in greenhouses where desirable plants are growing or in greenhouses connected to other areas where such plants are growing. Fumes from treated soil can injure growing plants.
3. Do not apply indoors.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

STORAGE: Store in a cool, dry place. Keep container closed when not in use. Do Not Store Below 0°F. Product crystallizes at lower temperatures. Warm or store at higher temperatures and mix to redissolve crystals and assure uniformity before use.

PESTICIDE DISPOSAL: ~~Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.~~ Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

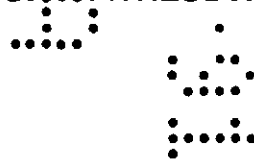
CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, ~~or by other procedures approved by state and local authorities~~ or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

IMPORTANT: Read the Entire Directions for Use and the Conditions of Sale and Warranty before using this product.

CONDITIONS OF SALE AND LIMITED WARRANTY:

The Directions for Use of this product are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as timing and method of application, weather and crop conditions, mixture with other chemicals not specifically recommended or other influencing factors in the use of the product, all of which are beyond the control of the seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Seller harmless for any claims relating to such factors.

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label, subject to the inherent risks referred to above, when used in accordance with directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller and Buyer and User assume the risk of any such use. SELLER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF...FITNESS.. OR MERCHANTABILITY.



When Buyer or User claims losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability or other legal theories), Buyer or User must promptly notify in writing Seller of any claims to be eligible to receive either of the remedies set forth below. The EXCLUSIVE REMEDY OF BUYER OR USER and the LIMIT OF LIABILITY of Seller will be, at the election of Seller, refund of the purchase price paid for product bought, or replacement of amount of product used. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE.

VAPAM® is a trademark of an ICI Group Company.

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