

**ACCEPTED**

FEB 3 1975

UNDER THE FEDERAL INSECTICIDE  
FUNGICIDE AND RODENTICIDE ACT  
FOR ECONOMIC POISON REGISTERED  
UNDER NO. 464-427

**SPECIMEN LABEL**



# ETHYLENE DIBROMIDE

## FULL-STRENGTH SOIL FUMIGANT

*Useful in the Control of Nematodes, Wireworms and Garden Centipedes (Symphylans)*

**ACTIVE INGREDIENT:**

**Ethylene Dibromide** 100%  
 Contains 18.1 pounds of ethylene dibromide per gallon  
 E.P.A. Registration No. 464-427-AA  
 E.P.A. Est. 464-MI-1<sup>MM</sup>; 464-TX-1<sup>TA</sup> TB; 464-CA-1<sup>WP</sup>  
 Superscript used corresponds to letter in Lot No.

Use DOW Ethylene Dibromide soil fumigant as a preplanting treatment to control nematodes (other than encysted eggs and larvae of the sugar beet nematode, golden nematode, and related species), wireworms, and garden centipedes (symphylans) on land to be planted to lima beans, brocoli, carrots, cauliflower, corn, sweet potato, cucumbers, egg plant, floral crops, gladiolus, lettuce, onions, nursery crops, extra parsnips, peppers, pineapple, potatoes, sweet potatoes, winter squash (summer), strawberries, tobacco and tomatoes. DOW Ethylene Dibromide usually is applied as an overall treatment, but row treatment may be used on cotton, cucumbers, and certain other crops for which this type of treatment is suitable. For best results, annual treatment is required.

**DIRECTIONS FOR APPLICATION AND PLANTING**

**When to Treat:** Treatments can be made either in spring or fall whenever soil conditions are suitable. In northern states, late summer or early fall treatment (before October 15) is best for land to be planted to early spring crops, especially in muck soils. Early treatment permits planting a fall cover crop.

**Soil Preparation:** To facilitate sealing and fumigant penetration, work crop remains into the soil so that they are decomposed before treatment. Soil should be in good workable condition. Soil temperature 50-95 F., with adequate moisture for good seed penetration. Deep tillage 12 to 18 inches, after improvement, is suitable in heavy or muck soils.

**Application:** For nematode control both overall and row treatments are effective. Use only overall applications for control of wireworms and symphylans (garden centipedes). Overall applications may be made with either chisel or plow sole equipment. Row applications should be made with chisels spaced 12 inches apart. Two or more passes should be used per row depending upon the width of the row to be treated. For row applications, as the distance between the rows increases, the amount of DOW Ethylene Dibromide required per acre decreases. In all cases, one of the fumigant applications should be made 12 to 18 inches below the final soil surface, if possible. Mark the treated rows by bedding or staking or by treating press wheels in 12 inch intervals in the center of the treated strips.

**Sealing:** Immediately after application, with a roller or similar device, seal the surface of the soil to prevent the escape of fumigant vapor. Immediately following treatment, apply a topsoil or mulch and then compact it. The topsoil or mulch should be applied to the surface of the soil to a depth of 2 to 3 inches.

tractor wheel, by listing, or by bedding so that the fumigant will be 12 to 14 inches below the top of the bed. When fumigating listed rows, seal in the fumigant with ring rollers or press sealer.

**Exposure Period:** After application and compaction, leave the soil undisturbed for at least 7 to 14 days. Wet soil retards diffusion of the DOW Ethylene Dibromide, requiring a longer exposure period.

**Aeration and Preparation of Soil Before Planting.** At the end of the exposure period, aerate the soil by plowing or deep cultivation. This is especially desirable in northern areas after fall application in muck soils. **If heavy rains accompanied by low temperatures occur during the exposure period, working the soil several times is essential for thorough aeration.** Aeration is usually complete when the odor of the fumigant is no longer evident. Shallow tilled crops are usually be planted about one week after the end of the exposure period, or when aeration is complete. For deep-rooted trees and shrubs, the aeration period should be 3 to 6 months.

**Caution—Note Carefully:** Fumigation may temporarily raise the level of ammonia nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either acid, wet, acid, or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil test made **after fumigation.** To avoid ammonia injury, or nitrate storage, or both, to crops, avoid using fertilizers containing ammonia salts and use only fertilizers containing nitrates until after the crop is well established and the soil temperature is above 65 F. Certain crops including cotton and pineapple are tolerant to ammonia and the above rule does not apply to them. Liming before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

**PRECAUTIONS**

To avoid reinfestation of treated soil, do not use transplants, tools or crop remains that could carry soil-borne pests from infested land. Clean ring carefully before using. DOW Ethylene Dibromide is not recommended for extremely heavy soils or land to be planted to onions within 2 years. Row treatment is not recommended for control of wireworms. Soil fumigant will not control flea beetle larvae, maggots, and certain other soil-inhabiting insects which cause damage similar to that of wireworms, since they usually are not present at the time of fumigation. Consult your local agricultural authorities for suggestions for the control of these pests.

Apply this product only as specified on this label.  
 Do not store near seeds, plants, fertilizers, or other pest-control chemicals.

Do not use containers, handling or application equipment made of aluminum, magnesium, or their alloys. Store in **tightly closed** containers in a cool place away from dwellings. Do not store on the floor, or on their sides. **If DOW Ethylene Dibromide is sub-**

jected to temperatures below 50 F., warm to 55 F. and mix thoroughly before using.

**Dispose of Wastes and Decontaminate Containers** by burying unused product at least 18 inches deep and away from water supplies. Allow inside of thoroughly drained container to air dry away from children. Destroy container to prevent reuse.

**AGRICULTURAL CHEMICAL**

**Do Not Ship or Store with Food, Feeds, or Clothing**

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

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

**WARNING**

**KEEP OUT OF REACH OF CHILDREN  
 HARMFUL LIQUID AND VAPOR • CAUSES SKIN  
 IRRITATION AND BLISTERS ON PROLONGED  
 CONTACT • ABSORBED THROUGH SKIN  
 HARMFUL IF SWALLOWED  
 Avoid Breathing Vapor • Do Not Take Internally  
 Do Not Get on Skin, in Eyes, or on Clothing  
 Use Only with Adequate Ventilation**

In case of contact, immediately remove contaminated shoes and clothing and wash skin with soap and water. Flush eyes with plenty of water for at least 5 minutes and get medical attention. Do not wear shoes or clothing until ABSOLUTELY free from all chemical odor.

If illness results from inhalation, remove to fresh air and call a doctor. If swallowed, call a doctor. Induce vomiting by giving an emetic such as two tablespoons of table salt in a glass of warm water.

**NOTICE:** Seller warrants that this product conforms to its formula description, and is reasonably fit for the purpose stated on the label, when used in accordance with directions under normal conditions of use. Seller does not warrant, nor any other warranty, MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, expressly or implied, for the use of this product contrary to label instructions, or for any other use, and this warranty does not extend to any use not reasonably foreseeable by a prudent user. The use of any such use.

**THE DOW CHEMICAL COMPANY**

AND SUBSIDIARIES  
 MIDLAND, MICHIGAN 48640, U.S.A.    ZÜRICH, SWITZERLAND    HONG KONG, S.P.A.  
 TORAL GABLES, FLORIDA 32114, U.S.A.    SARNIA, ONTARIO, CANADA  
 \* MEMBER OF THE DOW CHEMICAL COMPANY

**DOSAGE AND USE RECOMMENDATIONS**

Use as preplant only, except as indicated by footnote (i). Do not exceed maximum rates.

Crop or Areas	Pest to be Controlled	Type of Application
Row Crops (corn, sorghum, cotton, alfalfa, soybeans, beans, sweet potatoes, pumpkins, eggplant, melons, cucumbers, squash, pumpkins, sweet potatoes, strawberries, etc.)	A nematodes except encysted eggs and larvae of sugar beet nematode, golden nematode, and related species.	Overall or Row
	Wireworms (a), Symphylans (b) and garden centipedes with exceptions above.	Overall
Potatoes (d) with	A nematodes except encysted eggs and larvae of sugar beet nematode, golden nematode, and related species.	Overall or Row
	Wireworms (a), Symphylans (b) and garden centipedes with exceptions above.	Overall
	Wireworms (a) and garden centipedes with exceptions above.	Row (e)
Strawberries (g)	Nematodes	Overall or Row
Nursery and Floral Crops, Seedbeds	A nematodes except encysted eggs and larvae of sugar beet nematode, golden nematode, and related species.	Overall or Row
Fruit Tree Planting Sites	Nematodes	Overall or Row
Pineapple	Nematodes	Row
Peanuts	Nematodes	Overall or Row

**Caution Concerning Peanut Hay and Hulls:** Do not use this product on peanut hay or hulls. If used on peanut hay or hulls, it may cause injury to the animal. Do not use this product on peanut hay or hulls if the animal is to be used for human consumption.

- (a) Wireworms (a) Wireworms (a) Wireworms (a) Wireworms (a) Wireworms (a)
- (b) Symphylans (b) Symphylans (b) Symphylans (b) Symphylans (b) Symphylans (b)
- (c) Garden centipedes (c) Garden centipedes (c) Garden centipedes (c) Garden centipedes (c) Garden centipedes (c)
- (d) Nematodes (d) Nematodes (d) Nematodes (d) Nematodes (d) Nematodes (d)
- (e) Overall applications (e) Overall applications (e) Overall applications (e) Overall applications (e) Overall applications (e)
- (f) Maximum rate (f) Maximum rate (f) Maximum rate (f) Maximum rate (f) Maximum rate (f)
- (g) Strawberries (g) Strawberries (g) Strawberries (g) Strawberries (g) Strawberries (g)
- (h) Wireworms (h) Wireworms (h) Wireworms (h) Wireworms (h) Wireworms (h)
- (i) Do not use (i) Do not use (i) Do not use (i) Do not use (i) Do not use (i)
- (j) Do not use (j) Do not use (j) Do not use (j) Do not use (j) Do not use (j)

**LOT**

86-1254 PRINTED IN U.S.A. IN OCTOBER, 1974

REPLACES SPECIMEN LABEL 86-1254 PRINTED IN JUNE, 1972

REVISIONS INCLUDE: (1) EPA ESTABLISHMENT NUMBER ADDED

ACCEPTED

FEB 3 1975

UNDER THE FEDERAL INSECTICIDE FUNGICIDE AND RODENTICIDE ACT FOR ECONOMIC POISON REGISTERED UNDER NO. 464-427

SPECIMEN LABEL

# Ethylene Dibromide

## SOIL FUMIGANT

Useful in the Control of Nematodes, Wireworms and Garden Centipedes (Symphylans)

tractor wheel by tilling or by bedding so that the fumigant will be 12 or 14 inches below the top of the bed. When fumigating planted rows, seal in the fumigant with ring rollers or press seals.

**Exposure Period:** After application and compaction, leave the soil undisturbed for at least 7 to 14 days. Wet soil retards diffusion of the DOW Ethylene Dibromide, requiring a longer exposure period.

**Aeration and Preparation of Soil Before Planting:** At the end of the exposure period, aerate the soil by plowing or deep cultivation. This is especially desirable in northern areas after fall application on heavy soils. If heavy rains accompanied by low temperatures occur during the exposure period, working the soil several times is essential for thorough aeration. Aeration is usually complete when the odor of the fumigant is no longer evident. Shallow-rooted crops are usually planted about one week after the end of the exposure period, or when aeration is complete. For deep-rooted trees and shrubs, the aeration period should be 3 to 6 months.

**Caution—Note Carefully:** Fumigation may temporarily raise the level of ammonia-nitrogen and soluble salts in the soil. This is most likely to occur when heavy rates of fertilizer and fumigant are applied to soils that are either cold, wet, acid or high in organic matter. To avoid injury to plant roots, fertilize as indicated by soil test made after fumigation. To avoid ammonia injury, do not start irrigation or both to crops, avoid using fertilizers containing ammoniacal salts and use only fertilizers containing nitrates. Irrigation should be well established and the soil temperature is above 50° F. for other crops including cotton and pineapple are tolerant to ammonia and the above rule does not apply to them. Liming to pH 6.5 is therefore fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

### PRECAUTIONS

To avoid reinfestation of treated soil, do not use transplants, tons or crop remains that could carry soil-borne pests from infested land. Examine carefully before using. DOW Ethylene Dibromide is not recommended for extremely heavy soils or land to be planted to crops within 2 years. Row treatment is not recommended for control of wireworms. Soil fumigation will not control flea beetle larvae, maggots, and certain other soil-inhabiting insects which cause damage similar to that of wireworms, since they usually are not present at the time of fumigation. Consult your local agricultural authorities for suggestions for the control of these pests.

Apply this product only as specified on this label.

Do not store near seeds, plants, fertilizers, or other pesticide chemicals.

Do not use containers, hand pump or application equipment made of aluminum, magnesium, or their alloys. Store in tightly closed containers in a cool place away from dwellings. In outside storage, store drums on their sides. If DOW Ethylene Dibromide is sub-

jected to temperatures below 50° F., warm to 55° F. and mix thoroughly before using.

**Dispose of Wastes and Decontaminate Containers** by burying unused product at least 18 inches deep and away from water supplies. Allow inside of thoroughly drained container to air dry away from children. Destroy container to prevent reuse.

### AGRICULTURAL CHEMICAL

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

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

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

### WARNING

KEEP OUT OF REACH OF CHILDREN  
HARMFUL LIQUID AND VAPOR • CAUSES SKIN IRRITATION AND BLISTERS ON PROLONGED CONTACT • ABSORBED THROUGH SKIN  
HARMFUL IF SWALLOWED

Avoid Breathing Vapor • Do Not Take Internally  
Do Not Get on Skin, in Eyes, or on Clothing  
Use Only with Adequate Ventilation

In case of contact, immediately remove contaminated shoes and clothing and wash skin with soap and water. Flush eyes with plenty of water for at least 5 minutes and get medical attention. Do not wear shoes or clothing until ABSOLUTELY free from all chemical odor.

If dizziness results from inhalation, remove to fresh air and call a doctor. If swallowed, call a doctor. Induce vomiting by giving an emetic such as two tablespoonfuls of table salt in a glass of warm water.

**NOTICE:** Seller warrants that this 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, or MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, expressly or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable, and seller assumes no liability for any such use.

### THE DOW CHEMICAL COMPANY

AND SUBSIDIARIES  
MIDLAND MICHIGAN 48640 USA ZÜRICH SWITZERLAND HONG KONG, B.C.C.  
CORAL GABLES FLORIDA 33134 USA SARNIA ONTARIO CANADA  
\* Trademark of THE DOW CHEMICAL COMPANY

### DOSAGE AND USE RECOMMENDATIONS

Use as preplant only except as indicated by footnote (i). Do not exceed maximum dosage per acre in a single year.

Crop or Area	Pest to be Controlled	Type of Application	Remarks	Gallons Per Acre (j)	Ft. Oz./1000 Ft. Row Per Chisel
Row Crops Beans, corn, cucumbers, eggplants, melons, okra, pumpkins, peppers, potatoes, sweet squashes, tomatoes, strawberries, tobacco, watermelons	A nematodes and wireworms, and garden centipedes and related species	Preplant F.W.	Use only in sandy soils.	1.0-1.5	1.0-1.5
	Wireworms (a) and Symphylans (b) and nematodes with exceptions at (a)	Preplant Sandy Soil		1.0-1.5 (c)	1.0-1.5
Potatoes (d) with	A nematodes and wireworms and related species	Preplant F.W.	Use only in sandy soils.	1.0-1.5	1.0-1.5
	Wireworms (a) and Symphylans (b) and nematodes with exceptions at (a)	Preplant Sandy		1.0-1.5 (c)	1.0-1.5
	Wireworms and related species and wireworms	Preplant (e)	Use only in sandy soils.	1.0-1.5 (f)	1.0-1.5 (f)
Strawberries (g)	Nematodes	Preplant F.W.	Use only in sandy soils.	1.0	1.0
Nursery and Floral Crops Seedbeds	A nematodes and wireworms and related species	Preplant F.W.	Use only in sandy soils.	1.0	1.0
Fruit Tree Planting Sites	Nematodes	Preplant F.W.	Use only in sandy soils.	1.0	1.0-1.5
Pineapple	Nematodes	Preplant F.W.	Use only in sandy soils.	1.0-1.5 (h)	1.0-1.5
				1.0 (i)	1.0
Peanuts	Nematodes	Preplant F.W.	Use only in sandy soils.	1.0	1.0-1.5

**Caution Concerning Peanut Hay and Hulls:** Do not use this product on soils to be planted to peanut hay or hulls. The fumigant may be present in the soil for a long period of time after application. Do not use this product on soils to be planted to peanut hay or hulls until the soil has been thoroughly aerated and the fumigant odor is no longer present.

- (a) For wireworms, use only in sandy soils.
- (b) For Symphylans, use only in sandy soils.
- (c) Use only in sandy soils.
- (d) For wireworms, use only in sandy soils.
- (e) Use only in sandy soils.
- (f) Use only in sandy soils.
- (g) Use only in sandy soils.
- (h) Use only in sandy soils.
- (i) Use only in sandy soils.

B1074

LOT

LB