

ACCEPTED
with COMMENTS
in EPA Letter Dated:

NOV 9 1982

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticides
registered under EPA Reg. No.

3377-13

Ethyl

EDB 93WE

**PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS
AND DOMESTIC ANIMALS:**

DANGER

This soil fumigant is a hazardous chemical which should be handled with care only by individuals experienced with its use. Get use instructions from your dealer representative or an Ethyl Corporation technical representative before using. Read and follow all label directions.

EDB 93^{WE} can cause severe skin burns, which may be delayed. Breathing of its vapor can cause illness and internal damage. When exposure to vapor is likely, wear a full face gas mask with black cannister meeting specifications jointly approved by the Mining Enforcement and Safety Administration and by the National Institute for Occupational Safety and Health under the provisions of 30CFR, pt II.

ENVIRONMENTAL HAZARD

This fumigant is toxic to fish and wildlife. It should not be discharged where it will drain into lakes, streams, ponds, or public water. Do not contaminate water by cleaning of equipment or disposal of wastes.

CHEMICAL HAZARD

Do not use containers or application equipment made of magnesium, aluminum or their alloys, as under certain conditions this fumigant may be severely corrosive to such metals.

STORAGE AND DISPOSAL

STORAGE: Do not store near seeds, plants, fertilizers of other pesticide chemicals. Store in tightly closed containers in a cool place away from dwellings. In outside storage, store drums on their sides. If EDB 93^{WE} is subjected to temperatures below 28°F., warm to 50°F. and mix thoroughly before using.

DISPOSAL OF WASTE PESTICIDE: Rinse emptied containers with diesel fuel and use for soil treatment if possible. EDB 93^{WE} or mixtures thereof, including non-usable rinse solution which cannot be used according to label instructions must be disposed of according to Federal or approved state procedures under Subtitle C of the Resource Conservation and Recovery Act.

DISPOSAL OF EMPTY CONTAINERS: Triple rinse with diesel fuel or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures.

**SOIL FUMIGANT SOLUTION CONTAINING
ETHYLENE DIBROMIDE USEFUL IN THE CONTROL
OF NEMATODES AND CERTAIN SOIL BORNE PESTS**

ACTIVE INGREDIENTS:	BY WT.
Ethylene Dibromide	94.4%
INERT INGREDIENTS:	5.6%
	100.00%

One gallon of EDB 93WE contains 16 pounds of Ethylene Dibromide.

KEEP OUT OF REACH OF CHILDREN

DANGER  **POISON**

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED—Call a physician or Poison Control Center immediately. If possible, vomiting should be induced under medical supervision. Drink one or two glasses of water and induce vomiting by touching the back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF INHALED - Remove victim to fresh air. Apply artificial respiration if indicated.

IF ON SKIN - Remove contaminated clothing and wash affected areas with soap and water.

IF IN EYES - Flush eyes with plenty of water. Call a physician immediately.

See Side Panel For Additional Precautionary Statements

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Ethyl Chemicals Group

EPA Est. 3377AR-1
EPA Reg. No. 3377-

DIRECTIONS FOR USE

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

Use EDB 93^{WE} 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) in land to be planted to any of these crops listed in the table on the next panel. EDB 93^{WE} is usually 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. See other side panel for applicable crops and application procedures. Use only as directed. If in doubt, consult with your county or state agricultural agent or the technical representative of your supplier. Note carefully the essential precautions to protect the soil and crops.

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 seed bed condition, warm (50-95°F.), with adequate moisture for good seed germination. Deep tillage, 12 to 18 inches, often improves results, especially 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 centipede); 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 chisels 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 fumigant required per acre decreases. In all cases, inject the fumigant at least 5 to 8 inches below the final soil surface planting level. Mark the treated rows by bedding or listing or by tractor or press wheels, and plant in the center of the treated strips.

SEALING: Compact the soil immediately after application. With chisel application, use a float, roller, cultipacker, or similar device attached to the applicator or to another closely following tractor. After plow sole application, disk the land, then compact it by floating or rolling. Sealing after row application can be accomplished by the tractor wheel, by listing, or by bedding so that the fumigant will be 12 or 14 inches below the top of the bed. When fumigating listed rows, seal in the fumigant with ring rollers or press sealers.

EXPOSURE PERIOD: After application and compacting, leave the soil undisturbed for at least 7 to 14 days. Wet soil retards diffusion of the fumigant thus 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 slow 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 can 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.

WARRANTY

Seller makes no warranty, expressed or implied, concerning 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.

PRECAUTIONS TO PROTECT THE SOIL

NOTE: Fumigation may temporarily raise the level of ammonia nitro likely to occur when heavy rates of fertilizer and fumigant are applied high in organic matter. To avoid injury to plant roots, fertilize to avoid ammonia injury or nitrate starvation, or both, to crops, and use only fertilizers containing nitrates, until after the crop above 55°F. Certain crops including cotton and pineapple are tolerant to them. Liming highly acid soils before fumigation stimulates nit toxicity.

TO AVOID REINFESTATION of treated soil, do not use transplants, pests from infested land. Clean rig carefully before using. EDB 93^{WE} land to be planted to onions within 2 years. Row treatment in fumigation will not control flea beetles larvae, maggots, and certain similar to that of wireworms, since they usually are not present at

CROP AND DOSAGE INFORMATION

Use for preplant treatment only, unless otherwise indicated. Do not

Crop or Areas	Pest to be Controlled	Type of Application
Row Crops: Asparagus, Beans (Lima), broccoli, carrots, cauliflower, corn (sweet), cotton, cucumbers, egg plant, lettuce, melons, okra, parsnips, peppers, potatoes (sweet), squash (summer), strawberries, tobacco and tomatoes.	All nematodes except encysted eggs and larvae of sugar beet, golden and related species Wireworms (a) Symphylans (b) and all nematodes with exceptions above	Overall Row
Potatoes (i) white	All Nematodes except potato rot and cyst forming species Wireworms (a) Symphylans (b) and all nematodes with exceptions above Potato rot nematodes and wireworms	Overall Row
Strawberries (f)	Nematodes	Overall Row
Gladiolus, Nursery and Floral Crops, Seedbeds	All nematodes except encysted eggs and larvae of sugar beet golden and related species	Overall Row
Fruit Tree Planting Sites	Nematodes	Overall Strip
Pineapple	Nematodes	Row
Peanuts (j)	Nematodes	Row
Soybeans (j)	Nematodes	Overall Row

Footnotes to table

- (a) For wireworms only, on western irrigated land reduce dosage to 2.
- (b) For best results against symphylans (garden centipedes), apply at
- (c) Always use the 4.5 gallons per acre rate for symphylan control.
- (d) To avoid excessive bromide residue do not use EDB 93^{WE} if harvested
- (e) Make the first application using 3 to 3.75 gallons per acre. In using 1.5 to 1.9 gallons per acre.
- (f) For strawberries in areas where the plantings are maintained more
- (g) For Hawaiian pineapple use these dosages preplant only. Allow at
- (h) A postplant application may be made at this dosage within six months only if there has been no preplant treatment with EDB 93^{WE}.
- (i) **CAUTION CONCERNING PEANUT HAY AND HULLS:** Although a safe tolerance Drug Administration for residues of bromides in peanut kernels, hay, and hulls will contain bromide residues not covered by a tolerance suitable as feed for meat or lactating dairy animals. To avoid another party or otherwise introduce into commerce. Any forage containing bromide-containing fumigant should not be used as a feed for dairy slaughter until 2 years after row treatments are made and 3 years
- (j) EDB 93^{WE} can be applied at time of planting. Inject at a minimum of treatment areas or feed soybean hay to meat or dairy animals.

NOTE: The U. S. Food and Drug Administration has established maximum (one million) that may remain on raw agricultural products at harvest. available information and if followed carefully should not leave excess to see that there is no residue at harvest time in excess of the established

PRECAUTIONS TO PROTECT THE SOIL AND CROPS

NOTE: 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 tests, made after fumigation. To avoid ammonia injury or nitrate starvation, or both, to crops, avoid using fertilizers containing ammonium 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 highly acid soils before fumigation stimulates nitrification and reduces the possibility of ammonia toxicity.

TO AVOID REINFESTATION of treated soil, do not use transplants, tops or crop remains that could carry soil-borne pests from infested land. Clean rig carefully before using. EDB 93 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 fumigation will not control flea beetles 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.

CROP AND DOSAGE INFORMATION

Use for preplant treatment only, unless otherwise indicated. Do not exceed maximum dosage per acre in a single year.

Crop or Areas	Pest to be Controlled	Type of Application	Remarks	Gallons Per Acre
Row Crops: Asparagus, Beans (Lima) broccoli, carrots, cauliflower, corn (sweet), cotton, cucumbers, egg plant, lettuce, melons, okra, parsnips, peppers, potatoes (sweet) squash (summer), strawberries, tobacco and tomatoes.	All nematodes except encysted eggs and larvae of sugar beet, golden and related species	Overall or Row	Loam or Sandy Soil	3.4 - 4.5
	Wireworms (a)	Overall	Muck Soil	6.75
	Symphylans (b) and all nematodes with exceptions above	Overall	Loam or Sandy Soil	3.4 - 4.5 (c)
Potatoes (d) white	All Nematodes except potato rot and cyst forming species	Overall or Row	Loam or Sandy Soil	3.4 - 4.5
	Wireworms (a) Symphylans (b) and all nematodes with exceptions above	Overall	Loam or Sandy Soil	3.4 - 4.5 (c)
	Potato rot nematodes and wireworms	Overall	Wisconsin & Idaho	3 - 3.75 (e) 1.5 - 1.9 (e)
Strawberries (f)	Nematodes	Overall or Row	Wherever needed	6.75
Gladiolus, Nursery and Floral Crops, Seedbeds	All nematodes except encysted eggs and larvae of sugar beet golden and related species	Overall or Row	Wherever needed	4.5
Fruit Tree Planting Sites	Nematodes	Overall or Strip	Wherever needed	11.25
Pineapple	Nematodes	Row	Wherever needed	6.75 - 13.5 (g) 4.5 (h)
Peanuts (i)	Nematodes	Row	Wherever needed	0.75 - 1.5
Soybeans (j)	Nematodes	Overall or Row	Wherever needed	1.0 - 1.5

Footnotes to table

- (a) For wireworms only, on western irrigated land reduce dosage to 2.25 gal./A.
- (b) For best results against symphylans (garden centipedes), apply during late summer or early fall when soil is warm.
- (c) Always use the 4.5 gallons per acre rate for symphylan control.
- (d) To avoid excessive bromide residue do not use EDB 93 if harvested potatoes will be fumigated with methyl bromide.
- (e) Make the first application using 3 to 3.75 gallons per acre. In 10 days, plow and make the second application using 1.5 to 1.9 gallons per acre.
- (f) For strawberries in areas where the plantings are maintained more than one crop year.
- (g) For Hawaiian pineapple use these dosages preplant only. Allow at least 2 days between treatment and planting.
- (h) A postplant application may be made at this dosage within six months after planting. Use postplant application only if there has been no preplant treatment with EDB 93.
- (i) **CAUTION CONCERNING PEANUT HAY AND HULLS:** Although a safe tolerance has been established by the U. S. Food and Drug Administration for residues of bromides in peanut kernels grown on soil fumigated with EDB 93, the peanut hay and hulls will contain bromide residues not covered by a tolerance. Such peanut hay and hulls are not suitable as feed for meat or lactating dairy animals. To avoid misuse of such hay or hulls, do not sell to another party or otherwise introduce into commerce. Any forage crop grown on soil treated with a bromide-containing fumigant should not be used as a feed for dairy animals or for animals being finished for slaughter until 2 years after row treatments are made and 3 years following overall treatments.
- (j) EDB 93 can be applied at time of planting. Inject at a minimum depth of 5 in. below seed level. Do not graze treatment areas or feed soybean hay to meat or dairy animals.

NOTE: The U. S. Food and Drug Administration has established maximum amounts of pesticide chemicals (in parts per million) that may remain on raw agricultural products at harvest. The above dosage directions are based on the best available information and if followed carefully should not leave excessive residues. It is the user's responsibility to see that there is no residue at harvest time in excess of the established maximum amount.

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