

Code 31994

Net Contents
Gallons

Thiodan® 2 C.O. EC Insecticide

For Agricultural or Commercial Use Only.

EPA Reg. No. 279-2659

EPA Est., 279-

Active Ingredients:	BY WT.
*Endosulfan; Hexachlorohexahydromethano- 2,4,3-benzodioxathiepin oxide	23.10%
Xylene range aromatic solvent	20.00%
Inert Ingredients:	56.90%
	100.00%

*Thiodan is a registered trademark of Canadian Hoechst Ltd
Thiodan 2 C.O. EC contains 2 pounds Endosulfan (Thiodan) per
gallon

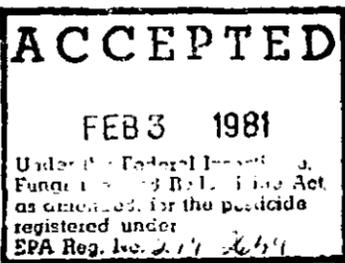
KEEP OUT OF REACH OF CHILDREN

WARNING

Note to Physicians: Thiodan is a central nervous system stimulant. Treat
symptomatically. There is no specific antidote.

For Emergency Assistance Call 716-735-3765.

See Other Panels for Additional Precautionary Information.



FMC

FMC Corporation
Agricultural Chemical Group
2000 Market Street
Philadelphia Pennsylvania 19103

PA 5/80

PRECAUTIONARY STATEMENTS

Hazards to Humans (& Domestic Animals)

Hazardous if Swallowed, Inhaled or Absorbed Through Skin. Do not breathe spray mist. Do not get in eyes, on skin or on clothing. In case of contact, immediately remove contaminated clothing and flush skin or eyes with plenty of water. For eyes, get medical attention. Wash thoroughly with soap and water after handling and before eating or smoking; wear clean clothing. During commercial or prolonged exposure in spray-mixing and loading operations, wear clean, synthetic rubber gloves and a mask or respirator jointly approved by the Mining Enforcement and Safety Administration (formerly the U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11.

Environmental Hazards

This product is toxic to fish, shrimp, crab, birds and other wildlife. Birds feeding on treated areas may be killed. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

This product is toxic to bees and should not be applied when bees are actively visiting the area.

Do not use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues or other undesirable results may occur.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

Storage and Disposal

Do not store below 0° F. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Pesticide, spray mixture or rinsate that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies. Do not reuse empty containers. To dispose of container, triple rinse (or equivalent) and offer for recycling, reconditioning or disposal in approved landfill, or bury in a safe place. Return 30 gallon drum to reconditioner. Do not cut or weld this container. Consult Federal, State or local disposal authorities for approved alternative procedures.

Apply the listed amount per acre when insects first appear and repeat as required to maintain effective control. Use in sufficient water for thorough coverage, unless otherwise noted for listed crops. Coverage of upper and lower leaf surfaces is essential for good control. Do not plant root crops other than carrots, potatoes, sweet potatoes and sugar beets as follow-up crops. Observe use limitations. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides.

When apply, dilute material only with water. Use 1 gallon of water for each 1/2 gallon of concentrate. Apply during the recommended amount with 1/2 gallon of water. Do not apply more than 1/2 gallon finished spray per acre. Where there is a heavy infestation, a recommended mix with sufficient water to spray 1/2 gallon of finished spray, equal to twice the amount of the concentrate. Do not use on undrained fruit. Do not apply more than 1 day between last application and harvest and rated by number of days following the date.

Alfalfa, Grown for Seed: Apply 1/2 quart per 100 gallons of water or 4 to 5 quarts per acre. Do not apply more than 3 applications during the fruiting period nor apply within 21 days of harvest or do not apply within 30 days of harvest with no limit on the number of applications. Apple Rust Mite—Use 1/2 to 2 pints per 100 gallons of water or 6 to 8 quarts per acre. Woolly Apple Aphid—Use 1 quart per 100 gallons (8 quarts per acre). If 5 quarts or less are applied per acre may be applied within 30 days of harvest with no limit on number of applications, or if no more than 3 applications are made during the fruiting period do not apply within 21 days of harvest. Do not apply more than twice during the fruiting period. Do not feed pomace to livestock. Do not apply within 30 days of harvest.

Almonds: Peach Twig Borer—Use 4 to 5 quarts per acre for control in early season infestation. Apply during popcorn pink or petal fall. A maximum of 200 gallons dilute or 40 gallons per acre concentrate. (For areas less than one acre use 1 quart per 100 gallons). Do not exceed one application per season.

Apples: Apple Aphid, Rosy Apple Aphid—Use 1 quart per 100 gallons of water or 4 to 5 quarts per acre. Do not make more than 3 applications during the fruiting period nor apply within 21 days of harvest or do not apply within 30 days of harvest with no limit on the number of applications. Apple Rust Mite—Use 1/2 to 2 pints per 100 gallons of water or 6 to 8 quarts per acre. Woolly Apple Aphid—Use 1 quart per 100 gallons (8 quarts per acre). If 5 quarts or less are applied per acre may be applied within 30 days of harvest with no limit on number of applications, or if no more than 3 applications are made during the fruiting period do not apply within 21 days of harvest. Do not apply more than twice during the fruiting period. Do not feed pomace to livestock. Do not apply within 30 days of harvest.

Apricots, Nectarines: Catfacing Insects, Green Peach Aphid, Peach Twig Borer—Use 1 quart per 100 gallons of water or 4 to 5 quarts per acre. Peach Silver Mite—Use 1 pint per 100 gallons of water or 4 to 5 quarts per acre. Do not make more than 2 applications during the fruiting period. Do not apply within 30 days of harvest. Peachtree Borer—Use 1 1/2 quarts per 100 gallons of water (1 quart per 100 gallons of water in Western Areas). Spray all bark areas from ground level to scaffold limbs. Do not apply within 21 days of harvest.

Artichokes (7): Artichoke Aphid, Green Peach Aphid—Use 1 1/2 quarts per acre. Artichoke Plume Moth—Use 2 quarts per acre.

Barley, Oats, Rye, Wheat: Army Cutworms—Use 1 quart per acre. Do not apply after heads begin to form. Do not apply to treated forage to dairy animals or animals being finished. For airplane application, use 2 quarts in 2 gallons diesel fuel, 4 per acre.

Beans, Dry and Succulent (3): Bean Leaf-skeletonizer, Black Bean Aphid, Cucumber Beetles, Green Stink Bug, Mexican Bean Beetle—Use 1 to 2 quarts per acre. Do not make more than 3 applications per season. Do not feed treated threshings to livestock or allow to graze in treated fields. Do not use on lima beans that are to be removed from the field for processing.

Blueberries: Blueberry Bud Mite—Use 3 quarts per acre in 300 gallons of water. Apply immediately after harvest, and repeat 6 to 8 weeks later. Do not apply after buds are well formed.

Box Elder: Box Elder Bug—Use 3 quarts per 100 gallons or 2 tablespoonfuls per gallon. Beginning in May and continuing through June, spray tree trunks and foliage when insects first appear and repeat as required to maintain control. During late summer or fall, spray tree trunks, outside walls, fences, and other places where bugs are congregating.

Broccoli (7), Brussels Sprouts (14), Cabbage (7), Cauliflower (14): Cabbage Aphid, Cabbage Looper, Cross-Striped Cabbageworm, Diamondback Moth Larvae, Flea Beetle, Harlequin Bug, Imported Cabbageworm, Stink Bug—Use 3 to 4 pints per acre.

Carrots (7): Green Peach Aphid—Use 1 to 2 quarts per acre. Do not make more than 2 applications. Do not use tops for food or feed.

Celery, Whole Plant (7): Green Peach Aphid—Use 1 quart per acre. (4): Green Peach Aphid, Cabbage Looper—Use 1 to 2 quarts per acre. Do not make more than 3 applications.

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Cherries (21): Cherry Borer (Pacific Northwest Only)—Use 1 quart per 100 gallons of water. Apply during popcorn stage of growth. (Pacific Northwest Only)—Use 1 quart per 100 gallons of water. Apply during pink stage of growth. Black Cherry Aphid, Cherry Mite—Use 1 quart per 100 gallons of water (4 to 5 quarts per acre). Mistle Mite (Michigan Only)—Use 1 quart per 100 gallons. Apply only during dormant period.

Do not make more than 2 applications after shock split.

Cherry, Plum, and Peach Nursery Stock: Peachtree Borer—Use 1 gallon per 40 gallons of water. Mix thoroughly. Immerse the bundles of trees so that the roots and crowns are covered well above the grafting bud scar. If trees are not planted immediately allow to dry before returning them to storage. Wear rubber gloves during the dipping operation.

Citrus—Non-Bearing Trees and Nursery Stock: Citrus Aphid—Use 1 pint per 100 gallons of water or 5 quarts per acre. Do not apply to bearing trees or trees that will bear fruit within 12 months. NOTE: Pump and crab may be killed at application rates recommended on label. Do not apply where these are important resources.

Collards (21): Cabbage Looper, Diamondback Moth Larvae, Harlequin Bug, Imported Cabbageworm—Use 3 pints per acre. Do not make more than 1 application.

Corn—Seed Crop Only: Corn Earworm—Use 2 to 3 quarts per acre. Direct spray to area of cornsilks. Corn Leaf Aphid—Use 2 quarts per acre. Do not feed treated forage to livestock. Do not use seed for food, feed, or oil purposes.

Corn—Sweet (6): For Fresh Vegetable Use Only: Corn Leaf Aphid—Use 2 to 3 quarts per acre. Corn Earworm—Use 3 quarts per acre. For Corn Earworm, apply at 2 to 3 day intervals beginning when silks first appear and continuing until they begin to dry. Do not apply more than 5 times. Do not apply to sweet corn to be processed. Do not feed treated forage or ensilage to livestock or allow to graze in treated fields.

Cotton: Boll Weevil—Use 1 to 2 1/2 quarts per acre. Bollworm, Cabbage Looper, Lygus Bugs, Stink Bugs, Cotton Leafperforator—Use 2 quarts per acre. Thrips—Use 3 quarts per acre. Do not apply after bolls open. Do not graze meat or dairy animals in treated fields. Do not feed treated plant parts to meat or dairy animals.

Dogwood, Lilac: Dogwood Borer, Lilac Borer—Use 1 to 2 quarts per 100 gallons. Apply in early June and repeat in 10-14 days. Drench all bark areas down to ground level.

Douglas Fir (Grown for Ornamentals) Pacific Northwest Only: Cooley Spruce Gail Aphid, Douglas Fir Needle Midge—Use 1 quart per 100 gallons or 2 teaspoonfuls per gallon. To control Gail Aphid—Apply when white cottony tufts appear. To control Needle Midge—Apply in late April or early May just before buds open.

Eggplants (1): Blister Beetle, Colorado Potato Beetle, Flea Beetle, Green Peach Aphid, Green Stink Bug, Whitefly—Use 1 quart per acre.

Elm: Aphids—Use 1 quart per 100 gallons. Elm Leaf Beetle (New England Area Only)—Use 2 quarts per 100 gallons. Apply when about 50% of eggs have hatched. Repeat as needed.

Grapes (7): Grape Leafhopper—Use 1 quart per 100 gallons of water or 2 to 3 quarts per acre. Rose Chafer—Use 1 quart per 100 gallons of water. Do not apply to Concord variety as severe injury is likely to occur. Ground application equipment preferred.

Kale (21): Cabbage Flea Beetle, Imported Cabbageworm, Harlequin Bug—Use 1 1/2 quarts per acre. Apply only once during growing season.

Leatherleaf Fern (Leather Holly Fern): Leatherleaf Fern Borer—Use 1 quart per 100 gallons. Begin treatment when first feeding is observed in the mid-vein area at the base of the leaflets. Repeat at intervals of 2 to 3 weeks as necessary to maintain control.

Lettuce (14): Cabbage Looper, Diamondback Moth Larvae, Green Peach Aphid, Imported Cabbageworm—Use 2 quarts per acre. On Head Lettuce do not make more than 3 applications after thinning.

Remove outside leaves at harvest. Do not feed crop refuse to livestock. On Leaf Lettuce do not make more than 2 applications per season.

Logs, Felled: Bark Beetles (Scolytid species)—Use 2 gallons per 100 gallons. Wood Borers (Buprestids, Cerambycids, Curculionids)—Use 4 gallons per 100 gallons. Apply in late spring to felled logs. Spray logs thoroughly to point of runoff.

Macadamia Nuts (0): Southern Green Stink Bug—Use 2 quarts per 100 gallons.

Melons (0), Cucumbers (0), Squash (Summer-Winter) (0): Aphids, Cucumber Beetles, Striped Cabbage Flea Beetle, Striped Flea Beetle, Melonworm, Pickleworm, Squash Bug, Squash Beetle, Rindworm (watermelon), Squash Vine Borer—Use 1 to 2 quarts per acre. For Squash Vine Borer control, apply weekly to flower buds, stems and vines beginning when moths first appear. **Melons only:** Cabbage Looper, Omnivorous Leafroller—Use 2 quarts per acre.

Mustard Greens (21), Turnip Greens (21): Aphids, Cabbage Looper, Imported Cabbageworm—Use 3 pints per acre. Do not make more than 1 application.

Ornamentals, Greenhouse and Out-of-Doors: Aphids, Cyclamen Mite, Rose Chafer, Whitefly—Use 1 quart per 100 gallons of water. On chrysanthemums, best results will be obtained if applied before plants flower. Do not use on White Birch Trees. Do not apply to "Bonnafon Deluxe," "Fred Shoemith" and "White Knight" chrysanthemums as injury may result. In greenhouse applications wear mask or respirator jointly approved by the Mining Enforcement and Safety Administration (formerly the U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part II for Thiodan protection.

Peaches: Black Cherry Aphid, Black Peach Aphid, Catfacing Insects, Green Peach Aphid, Peach Twig Borer, Rusty Plum Aphid—Use 1 quart per 100 gallons of water or 4 to 5 quarts per acre. Peach Silver Mite—Use 1 pint per 100 gallons of water or 4 to 5 quarts per acre. Do not make more than 2 applications during the fruiting period. Do not apply within 30 days of harvest. Peachtree Borer—Use 3 pints per 100 gallons of water (2 pints per 100 gallons of water in Western Areas). Spray all bark areas from ground level to scaffold limbs. Do not apply within 21 days of harvest.

Pears (7): Apple Rust Mite, Consperse Stink Bug—**Ground treatment:** Use 1 quart per 100 gallons of water; 200 to 400 gallons per acre applied to orchard floor and around trees prior to bloom. Do not graze livestock in treated orchards. Pear Rust Mite—Use 1 quart per 100 gallons or 4 to 5 quarts per acre. **Foliar treatment:** Use 1 quart per 100 gallons of water or 4 to 5 quarts per acre. Pearleaf Blister Mite—Use 1 to 2 pints per 100 gallons of water applied as a post-harvest or dormant treatment. Do not make more than 2 applications during the fruiting period. (21): Pear Psylla—Use 5 quarts in sufficient water to treat 1 acre. (Minimums of 10 gallons per acre for aerial application, 40 gallons per acre for semi-concentrate and 300 gallons per acre for dilute). Apply when adults are first observed or nymphs are small and repeat to maintain control. Do not apply more than five times during the fruiting period. If no more than two applications are made during the fruiting period, may be applied within 7 days of harvest. To control second generation Pear Psylla apply 3 pints per 100 gallons of water, not to exceed 330 gallons of spray per acre. Apply when nymphs are still small and repeat if necessary in 7 to 10 days. Do not apply more than 2 applications during the fruiting season. Note: Aerial application does not result in satisfactory control and should only be employed if impossible to apply by ground.

Peas, Garden (Grown for Seed Only): Pea Aphid, Pea Weevil—2 to 3 pints per acre. Do not feed treated vines or threshings to livestock.

Peas, Garden (Succulent) Northwest Only (5): Pea Aphid, Pea Weevil—Use 2 quarts per acre. Do not apply more than twice. Use only on peas to be harvested by combine. Do not feed treated vines to livestock or allow to graze in treated fields.

Peas, Southern Field (Succulent type, including Black-eyed Peas, Crowder Peas, and Southern Peas): (3): Cowpea Curculionid—Use 2 quarts per acre. Make 3 applications at 5 day intervals starting after pods are 1/2 inch long. Do not feed treated threshings to livestock or allow to graze in treated fields.

Pecans: Black Pecan Aphid—Use 3 pints per 100 gallons. Do not apply after shuck split. Do not graze meat or dairy animals in treated groves.

Peppers: Green Peach Aphid, Flea Beetles, Hornworms, Pepper Maggot—Use 1 to 2 quarts per acre. May be applied within 1 day of harvest at the 1 quart per acre rate. At a rate exceeding 1 quart, do not apply within 4 days of harvest.

Pineapples (7): For fresh market only—Pineapple Fruit Mite—Use 1 gallon per acre. Apply at intervals of 7 to 10 days if necessary, particularly during the 40-day period of blooming. Do not make more than 4 applications. Do not feed treated forage or pineapple by-products to livestock.

Pines (Austrian, Jack, Red, Scotch, White): Zimmerman Pine Moth—Use 3 pints per 100 gallons. Applications should be made in mid-April and, if necessary, in late fall. Spray with enough pressure to thoroughly wet bark and main stem, especially where branches join main stem.

Plums (7), Prunes (7): Fruittree Leafroller (Pacific Northwest Only)—Use 1 quart per 100 gallons. Apply during pre-pink stage of growth. Hop Aphid, Leaf Curl Plum Aphid, Peach Twig Borer, Plum Nursery Mite, Thistle Aphid, Thistle Plum—Use 1 quart per 100 gallons or 4 to 5 quarts per acre. For aphids, apply when eggs hatch during pre-bloom or petal fall. Summer applications should be made before leaves curl. Lesser Peachtree Borer—Use 3 pints per 100 gallons or 4 to 5 quarts per acre. Apply spray to thoroughly wet trunks and main branches. Peachtree Borer—Use 3 pints per 100 gallons. (2 to 3 pints in Western areas) Spray thoroughly to cover all bark areas from ground to scaffold limbs. Do not use more than 5 quarts per acre. Do not apply within 21 days of harvest. (See under **Cherries** for nursery stock dip treatment for Peachtree Borer).

Potatoes (0): Aphids, Armyworms, Colorado Potato Beetles, Green Stink Bug, Leafhopper, Plant Bugs, Potato Flea Beetle, Potato Leafhopper, Potato Tuberworm, Whitefly—Use 1 to 2 quarts per acre. European Corn Borer, Potato Psyllid—Use 3 to 4 pints per acre. False Chinch Bug—Use 2 quarts per acre. Threelined Potato Beetle—Use 1 quart per acre.

Pumpkins (0): Aphids—Use 1 quart per acre. Cucumber Beetles, Squash Vine Borer—Use 1-2 quarts per acre. For Squash Vine Borer, apply weekly to flower buds, stems, and vines beginning when moths first appear.

Safflower: Green Peach Aphid—Use 2 quarts per acre. Do not apply after flower heads open.

Spinach (21): Green Peach Aphid, Crown Mite—Use 1 1/2 quarts per acre. Apply only once during growing season.

Spruce (New England Area Only): Spruce Gail Aphid—Use 1 quart per 100 gallons. Apply in late April or early May when aphids are present but before galls are formed.

Strawberries (4): Cyclamen Mite—Use 1 quart per 100 gallons. Apply 800 gallons per acre on West Coast, 400 gallons per acre in other areas. Do not reapply within 35 days when fruit is present. Meadow Spittlebug, Strawberry Aphid—Use 1 quart per 100 gallons or 2 quarts per acre. Apply a minimum of 150 gallons of water per acre. Tarnished Plant Bug—Use 1 quart per 100 gallons or 2 quarts per acre. Apply a minimum of 150 gallons of water per acre. Do not reapply within 45 days nor more than twice within a 35-day period when fruit is present. Garden Symphylan—(Northwest Only—**aid in reducing damage**)—Use 2 quarts per 100 gallons plant dip. Mix thoroughly. Dip entire plant. When emerging bundles of plants, make certain any trapped air is forced out to assure thorough wetting of the entire plant. Drain and allow plants to dry before setting them out in the field. Wear rubber gloves during dipping operation.

Sugar Beets (0): Green Peach Aphid—Use 1 to 2 quarts per acre. Meadow Spittlebug—Use 1 quart per acre. Sugar-beet Webworm—Use 3 to 4 pints per acre. Do not feed sugar-beet tops to livestock.

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Sunflower (0): Sunflower Moth—Use 2 quarts per acre. Do not make more than 3 applications. Make first application at onset of bloom and make two more applications at 4 to 7 day intervals. Do not feed treated forage to livestock.

Sweet Potato (South-Central States Only): Banded Cucumber Beetle Larvae (aids in the control of)—Use 2 to 4 quarts per acre broadcast, or 2 1/3 to 1 1/3 quarts per acre on a 16 inch band over the row (48 inch row spacing). Work into the soil to a depth of approximately 3 inches. Treatment should be made just prior to plant set. Do not feed treated potatoes to livestock.

Texas: Texas Bud Mite—Use 1 quart per 100 gallons. Make 3 to 5 applications as required beginning in mid-May. A thorough treatment of foliage, twigs and bark is essential. Black Vine Weevil—Use 2 quarts per 100 gallons. Spray thoroughly and drench surface of soil under plants. Apply when weevils first appear; repeat in 14 days.

Tobacco (5): Budworm, Cabbage Looper, Flea Beetle, Green Peach Aphid, Hornworm—**Seed Bed:** Use 1 quart per 100 gallons. Apply about 6 gallons per 100 square yards. **Field:** Use 1 to 2 quarts per acre. Apply in sufficient water for uniform coverage. Stink Bugs—Use 2 to 3 quarts per 100 gallons. **Plant Bed:** Green June Bug Larvae—Use 1 pint per 100 gallons, drenching at rate of 1 gallon per square yard.

Tomatoes (Field and Greenhouse) (1): Blister Beetles, Colorado Potato Beetle, Flea Beetles, Green Peach Aphid—Use 1 quart per acre. Cabbage Looper—Use 3 pints per acre. Stink Bugs—Use 3 to 4 pints per acre. Tomato Fruitworm, Tomato Russet Mite, Yellowstriped Armyworm—Use 2 quarts per acre. Tomato Hornworm, Webworm (Calif.)—Use 1 to 2 quarts per acre. Whitefly—Use 1 quart per 100 gallons of water using 100 to 200 gallons finished spray per acre.

Walnuts: To control Walnut Aphid—Use 3-4 quarts per acre. (Apply in a minimum of 150 gallons of water per acre.) Do not apply after husk-split. Do not graze treated groves until 21 days after treatment.

Watercress (7): Cyclamen Mite—Use 1 to 2 quarts per acre. Make first application after cutting before new growth starts. Repeat 7-10 days later.

Dealers Should Sell in Original Packages Only.

Terms of Sale or Use: On purchase of this product buyer and user agree to the following conditions:

Warranty: FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted, the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

Directions and Recommendations: Follow directions carefully. Timing and method of application, weather and crop conditions, mixture with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller and are assumed by buyer at his own risk.

Use of Product: FMC's recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice.

Damages: Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

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United States Federal Insecticide
Fungicide and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 279-2654