

Product Bulletin

Recommendations For Use (Continued)

TOMATOES -- anthracnose, early blight, septoria leaf spot: Follow general directions beginning when plants are 2 to 6 inches high.
Botrytis gray mold (greenhouses): Follow general directions repeating at 3 to 10-day intervals as necessary. TOLERANCE: 7.0 p.p.m. LIMITS: 3 8 pounds/acre. No time limitation.

Agricultural Ornamental Crop Uses:

ASTERS -- rust: 0.76 pound/12.0 gallons or apply 76.0 percent formulation as a dust for thorough coverage. Apply at 7-day intervals until blossoms form.

AZALEAS -- petal blight: 1.14 to 1.52 pounds/100 gallons. Begin with first bloom. Repeat at 7 to 10-day intervals through bloom. Spray flowers and drench mulch and litter beneath bushes.

CAMELLIAS -- petal blight: 1.14 to 1.52 pounds/100 gallons. Begin when flower buds start to swell. Repeat at 7 to 10-day intervals. Apply as a drench to mulch and litter beneath and around bushes.

CARNATIONS -- leaf spot, rust: 1.25 pounds/100 gallons. Begin in early season. Apply at 7 to 10-day intervals throughout the growing season.

CHRYSANTHEMUMS -- leaf spot: 1.14 to 1.52 pounds/100 gallons. Apply at 7 to 10-day intervals as needed.

DAHLIAS -- leaf spot, powdery mildew: 1.25 pounds/100 gallons. Apply at 7-day intervals throughout growing season.

DELPHINIUM -- powdery mildew: 1.25 pounds/100 gallons. Apply at 7-day intervals throughout growing season.

GLADIOLUS -- leaf spots: 1.14 to 1.52 pounds/100 gallons. Apply at weekly intervals.

GOLDEN GLOW, HOLLYHOCKS -- powdery mildew: 1.25 pounds/100 gallons. Apply at weekly intervals throughout growing season.

MARIGOLDS, MORNING GLORY -- rust: 1.25 pounds/100 gallons. Apply at 7-day intervals as necessary.

PHLOX -- powdery mildew: 1.25 pounds/100 gallons. Apply at 7-day intervals throughout season.

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Recommendations For Use (Continued)

ROSES -- black spot, powdery mildew: Use 1.25 pounds/100 gallons or dust with a 76.0 percent for thorough coverage. Begin when leaves unfold. Repeat at 7 to 10-day intervals throughout season.

SNAPDRAGONS -- leaf spot, rust: 1.14 to 1.52 pounds/100 gallons. Apply at 7 to 10-day intervals as needed.

Miscellaneous Agricultural Uses:

PINE SEEDLINGS (nursery beds) -- fusiform rust: 1.52 pounds/100 gallons. Begin at time of emergence. Repeat at 3 to 5-day intervals to mid-June.

Industrial Uses:

React-Rite™ ZDM should be used only in combination with zinc 2-mercaptobenzothiazole as:

- 1). 18.0 percent React-Rite™ ZDM plus 2.0 percent zinc 2-mercaptobenzothiazole as a liquid concentrate;
- 2). 46.0 percent React-Rite™ ZDM plus 4.0 percent zinc 2-mercaptobenzothiazole as a liquid concentrate weighing 9.1 pounds/gallon;
- 3). 85.5 percent React-Rite™ ZDM plus 7.4 percent zinc 2-mercaptobenzothiazole as granules or wettable powders; and
- 4). 87.0 percent React-Rite™ ZDM plus 7.5 percent zinc 2-mercaptobenzothiazole as a wettable powder; and
- 5). 90.0 percent React-Rite™ ZDM plus 7.5 or 7.8 percent zinc 2-mercaptobenzothiazole as soluble solids.

REACT-RITE™ ZDM:

ADHESIVES -- fungi: Use 0.1 percent of formula I or IV or 0.2 percent of formula II by weight of dry starch and 0.25 percent of formula I or 0.5 percent of formula II by weight of dry protein in adhesive formulation. Note: Ziram and zinc 2-mercaptobenzothiazole are both cleared for use in adhesives used in food packaging (FDA Regulations, paragraph 121.2520).

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Recommendations For Use (Continued)

COATINGS (for paper) -- fungi: Use 0.1 percent of formula III or IV based on the dry weight of starch or protein. LIMITS: Do not use in coatings intended for paper to be used in contact with food.

INDUSTRIAL RECIRCULATING COOLING WATER -- slime: Add 200.0 to 500.0 p.p.m. of formula II to the water in the system and to make-up water.

LATEX-COATED ARTICLES -- fungus proofing: Use 0.5 percent of formula II by weight of the completed article. Add to latex before coating.
Note: For coated cotton fabrics, also treat the cotton fabric component using 2.5 percent of formula II by weight of fabric.

NEOPRENE -- fungi: Add 0.1 to 1.0 percent of formula V based on the non-volatile neoprene formula weight.

PAPER AND PAPERBOARD -- fungus proofing: Apply 0.5 percent solids from formula II, III or IV, based on the weight of the sheet, as a surface treatment on the size press or calendar stack. LIMITS: Do not use in the production of paper or paperboard intended for food contact.

PLASTICS (polyethylene and styrene) -- fungi: Use 0.25 percent of formula V based on the total weight of resins. Apply by dry-tumbling with resin prior to calendaring, molding, or other fabrication process. LIMITS: Do not use in plastic coatings intended for food contact.

PULP AND PAPER MILL WET-END SYSTEM -- fungus slimes: Use 0.25 to 0.5 pound of formula II or 0.1 to 0.25 pound of formula III or IV/ton of pulp or paper produced. Add to stock system continuously or by frequent small amounts during each 8-hour shift. LIMITS: Do not use in manufacture of paper intended for food contact.

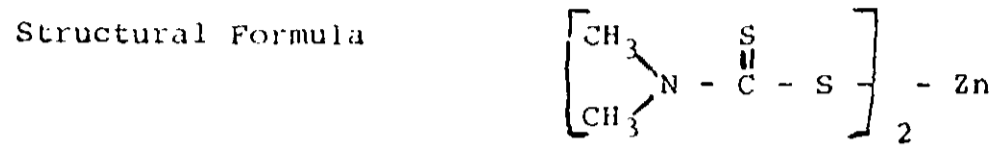
TEXTILES -- fungus proofing: Deposit 1.0 to 6.25 percent of formula I or 2.0 to 3.0 percent of formula II or 1.0 to 1.5 percent of formula IV based on the dry weight of cloth.

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Typical Properties

Chemical Zinc dimethyldithiocarbamate

Active content, % 99.9



Empirical Formula $\text{C}_6\text{H}_{12}\text{N}_2\text{S}_4\text{Zn}$

Molecular Weight 305.7

Melting Range, °C 248 - 255

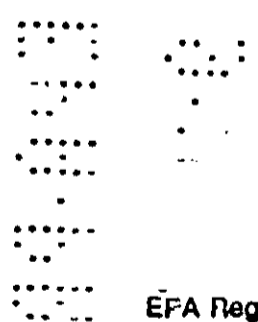
Physical State Micromilled powder

Color Cream to White

Odor Characteristic

Stability Thermally stable under normal storage conditions.

Bulking Factor, lb/ft³ 20



EPA Reg. No. 46588-2

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If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec.6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

Henry N. Jacoby
Product Manager (21)
Fungicide-Herbicide Branch
Registration Division (TS-767)

RD:HMJACOBY:CM*2:yb:RM227:X71900



ZAR

Clear Wood Preservative and Water Repellent

BEST DOCUMENT AVAILABLE

**KEEP OUT OF REACH OF CHILDREN
WARNING!**

See Back Panel For Additional ...
Precautionary Statements. ...
A Paint Product

penetrates deep into wood
cells to control the growth
of decay and stain causing
fungi and surface mold.
Reduces swelling, warping
and splitting of wood.
Water actually beads-up
and rolls off.

Transparent

One Gallon (3.785 L)

ACTIVE INGREDIENT.

Ziram (Zinc dimethyl dithiocarbamate)..... 95%
INERT INGREDIENTS 5%
Total 100%

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS:
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING!

Causes eye and skin irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Avoid inhalation of dust. Wash contaminated clothing before reuse.

FIRST AID:

In case of contact with skin, wash with soap and water; for eyes, flush with plenty of water for 15 minutes, and get medical attention.

ENVIRONMENTAL HAZARD:

This pesticide is toxic to fish. Do not apply directly to water.

PHYSICAL OR CHEMICAL HAZARDS:

Keep away from fire and sparks.

DIRECTIONS FOR USE:

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. For use by commercial fungicide formulators. For further information, please refer to technical data bulletin, which is available upon request.

ZINC DIMETHYL DITHIOCARBAMATE

React-Rite™ **ZDM**

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

STORAGE:

Store at normal room temperature away from sources of ignition

PESTICIDE DISPOSAL:

Pesticide, spray mixture or rinsate that cannot be used according to label instructions must be disposed of according to Federal, State or local procedures.

CONTAINER DISPOSAL:

Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum cannot be reused, dispose of in the same manner.

REACTOR PRODUCTS, INC. makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Formulators who use this product are responsible for providing data for registration.

EPA Reg. No. 46588-2

EPA Est. No. 46588-GA-01

NET WEIGHT = 100 Pounds

MANUFACTURED BY: REACTOR PRODUCTS, INC.

Old Summerville Road, Arnuchee, GA 30105



reactor products, inc.

P O BOX 128
ARMUCHEE, GA 30105

TELEPHONE

(404) 235-8294

(404) 235-8295

(404) 235-8296

React-Rite™ ZDM

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Use Precautions

The following precautions should be observed in handling and using React-Rite™ ZDM:

In handling React-Rite™ ZDM the usual precautions applicable should be observed. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Do not take internally. In case of contact, flush skin or eyes with plenty of water. Wash thoroughly after handling.

React-Rite™ ZDM should be stored in closed containers under cool and dry conditions. React-Rite™ ZDM has shown excellent storage stability in excess of two years. Do not contaminate water, food or feed by storage or disposal. Do not reuse empty containers.

Pesticide or rinsate that can not be used should be disposed of in a landfill approved for pesticides. Containers should be disposed of in an incinerator or landfill approved for pesticide containers. Consult federal, state and local disposal authorities for approved alternative disposal procedures.

Personal Protective Equipment

Wear goggles or eye shield when handling to protect eyes. Use protective barrier cream on exposed skin areas. Wear gloves and protective clothing when handling or using React-Rite™ ZDM to minimize skin contact. Do not inhale dust - wear a respirator if necessary. Launder outer garments if exposed to dust or spills. Discard footwear which can not be decontaminated.

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First Aid Procedures

Contact with eyes: Flush eyes with plenty of water immediately for at least 15 minutes. Seek medical attention immediately.

Contact with skin: Wash exposed areas of skin with soap and warm water after handling or using React-Rite™ ZDM. Contaminated clothing including footwear should be thoroughly cleaned before reuse.

Inhalation: Remove to fresh air.

Ingestion: Induce vomiting as soon as possible by tickling the back of the throat with the finger or other blunt object. Get medical attention immediately.

Allergic reactions: Contact a physician immediately.

Container

React-Rite™ ZDM is shipped in 100 pound (net), fibre drums and 50 pound (net) paper bags.

Our technical service representatives are available to assist in solving your specific problem. Our phone number is (404) 235-8294.

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of Reactor Products, Inc., no guarantee, expressed or implied, is made as to the effects of such use or the results to be obtained if not used in accordance with directions or established state practice. The buyer assumes all risks including injury or damage resulting from misuse of the product either alone or in combination with other materials.

Product Bulletin

Recommendations For Use

React-Rite™ ZDM is offered as a 94.0% (min.) active powder for the formulation of fungicidal preparations. Suggested concentrations for dusts are from 3.5 to 76.0 per cent (concentrations on active basis); 30.0 to 96.0 percent as wettable powders; 41.5 percent as aqueous suspension; and 0.1 percent in paste form. Inert ingredients may include talc, pyrophyllite, pigments, surfactants, solvents, dust control agents and/or water. React-Rite™ ZDM is compatible with most commonly used fungicide, insecticides and adjuvants. Care should be exercised that React-Rite™ ZDM is not used on zinc sensitive crops or varieties. Do not use React-Rite™ ZDM with calcium arsenate. Do not use React-Rite™ ZDM with lime sulfur.

Agricultural Formulations

ALMONDS -- brown rot: 1.14 to 2.33 pounds/100 gallons. Apply in popcorn and full bloom stages. Scab: 1.14 to 2.33 pounds/100 gallons. Apply in petal fall. Repeat 5 weeks later. Shothole (Coryneum blight): 1.14 to 1.52 pounds/100 gallons. Apply in popcorn, full bloom, and petal fall stages and 5 weeks later; or use 2.33 pounds/100 gallons in popcorn, full bloom, and petal fall. TOLERANCE: 0.1 p.p.m. LIMITS: 6.1 pounds/acre and do not apply later than 5 weeks after petal fall, or 12.5 pounds/acre and do not apply later than petal fall.

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..... Our recommendations for use of this product are based upon tests
..... believed to be reliable. The use of this product being beyond
..... the control of Reactor Products, Inc., no guarantee, expressed
..... or implied, is made as to the effects of such use or the results
..... to be obtained if not used in accordance with directions or
..... established state practice. The buyer assumes all risks including
..... injury or damage resulting from misuse of the product either
..... alone or in combination with other materials.
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Product Bulletin

Recommendations For Use (Continued)

APPLES, PEARS -- anthracnose, bulleye rot (Fusarium), perennial canker, storage rots (Pacific northwest only): 0.75 to 1.125 pounds/100 gallons or 3.5 to 7.5 pounds as a dust/acre. Apply preharvest prior to fall rains. Repeat is necessary, especially if excessive rainfall occurs. Scab (west coast only): 0.75 to 1.125 pounds/100 gallons. Apply in preblossom, calyx, and cover stages. Note: Apples may be injured by zinc compounds under certain conditions. TOLERANCE: 7.0 p.p.m. LIMITS: 9.1 pounds/acre with no time limitation; 12.0 pounds/acre and do not apply within 7 days of harvest.

APRICOTS -- brown rot: 1.52 pounds/100 gallons. Apply in prebloom, blossom and petal fall stages and in early cover sprays. Shot hole: Use 1.52 pounds/100 gallons as for brown rot, above, and 1.52 to 2.28 pounds/100 gallons postharvest in the fall before heavy rains. TOLERANCE: 7.0 p.p.m. LIMITS: 7.6 pounds/acre and do not apply after early cover period; 11.4 pounds/acre as postharvest fall application.

BANANA (postharvest) -- crown rot, stem rot (Fusarium, Fleosporium, Thielaviopsis): Use a paste formulation containing 0.1 percent ziram in combination with 2.0 percent sodium o-phenylphenate and 0.1 percent sulfur. Apply by brush to crown areas. TOLERANCE: None (nonfood use) for ziram and sodium o-phenylphenate; None (GRAS) for sulfur; 7.0 p.p.m. for thiram of which not more than 1.0 p.p.m. shall be in the pulp after peel is removed and discarded. LIMITS: 0.1 percent. Postharvest application to crowns only.

BLACKBERRIES -- crumble berry (cause unknown): 3.0 pounds/30.0 to 300.0 gallons/acre (Oregon and Washington only). Apply at open bud cluster. Repeat at full bloom. Evergreen canker (Pacific Northwest): 1.14 to 2.38 pounds/100 gallons. Apply once between mid-June and early July. TOLERANCE: 7.0 p.p.m. LIMITS: 3.8 pounds/acre. Do not apply later than early July.

BLUEBERRIES -- botrytis blossom blight: 2.28 pounds/100 gallons. Use 200.0 gallons or 1.14 to 2.28 pounds as a dust/acre. Apply just before bloom, at full bloom, and 2 to 3 weeks later. Leaf spots: 1.0 to 1.5 pounds as a dust/acre. Apply before fruit forms or after harvest. Mummy berry: 2.28 to 2.38 pounds/100 gallons. Use 200.0 gallons or 1.14 to 2.28 pounds as a dust/acre. Apply at loose bud scale stage. Repeat 7 days later. Red leaf disease (Maine only on "new burn"): 2.28 pounds/100 gallons. Apply when white fungus appears on underside of foliage (usually late June or early July). TOLERANCE: 7.0 p.p.m. LIMITS: 5.9 pounds/acre. Do not apply later than 3 weeks after full bloom.

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Recommendations For Use (Continued)

CHERRIES -- brown rot: 1.14 pounds/100 gallons or 2.8 to 4.0 pounds as a dust/acre. Apply at popcorn, full bloom, petal fall and as necessary in cover applications. Leaf spot: 1.14 pounds/100 gallons. Apply at petal fall, shuck fall and about two weeks after shuck fall. TOLERANCE: 7.0 p.p.m. LIMITS: 4.0 pounds/acre. Do not apply within 7 days of harvest.

CRANBERRIES -- fruit rots: 2.28 to 2.38 pounds/100 gallons or 2.25 to 3.75 pounds as a dust/acre. Apply 3 times at 2-week intervals beginning at mid-bloom. TOLERANCE: 7.0 p.p.m. LIMITS: 11.8 pounds/acre. Do not apply later than 4 weeks after mid-bloom.

GRAPES -- black rot, powdery mildew: 0.15 pound/12 gallons. Apply before buds swell. Repeat after blossoming but before fruit forms. TOLERANCE: 7.0 p.p.m. LIMITS: 3.12 pounds/acre. Do not apply after fruit begins to form.

NECTARINES, PEACHES -- brown rot: 1.14 to 1.52 pounds/100 gallons. Apply at pink bud, 25.0 to 75.0 percent of full bloom, petal fall, and cover stages. Leaf curl, shothole: 1.125 to 2.25 pounds/100 gallons or 3.0 to 4.0 pounds as a dust/acre. Apply in dormant and popcorn stages. For west coast use on peaches for leaf curl, apply just before fall rains or in November and repeat in 3 months while trees are still dormant and again in popcorn stage. TOLERANCES: 7.0 p.p.m. LIMITS: 11.25 pounds/acre with last application at petal fall; or 7.6 pounds/acre and remove excess residues by wiping or brushing.

PEARS -- see under Apples.

PECANS -- scab: 1.5 pounds/100 gallons. Begin when leaves are 0.25 to 0.5 inch long. Repeat after pollination is complete and up to 5 cover sprays at 3 to 4-week intervals through August. TOLERANCE: 0.1 p.p.m. LIMITS: 15.0 pounds/acre. Do not apply later than August.

RASPBERRIES -- botrytis fruit rot (western Washington): 3.8 pounds as a dust/acre. Apply 3 to 7 days before first fruit is picked, 10 to 14 days later at mid-harvest, and 7 to 14 days later at late harvest. Crumble berry (Pacific Northwest): 3.0 pounds/30.0 to 300.0 gallons/acre. Apply at open bud cluster. Repeat at full bloom. TOLERANCE: 7.0 p.p.m. LIMITS: 3.8 pounds/acre. Do not apply within 3 days of any picking.

STRAWBERRIES -- botrytis gray mold: 1.14 to 1.52 pounds/100 gallons. Begin at early blossom stage. Repeat 2 to 4 times at 5 to 10 day intervals. Leaf spots: 1.14 to 1.52 pounds/100 gallons. Apply when blossom buds first appear. Repeat when first blooms open. TOLERANCE: 7.0 p.p.m. LIMITS: 4.6 pounds/acre. Remove residues by washing if application is made within 7 days of harvest.

Product Bulletin

Recommendations For Use (Continued)

Agricultural Vegetable Crop Uses:

Unless otherwise specified, general directions include a dosage of 0.75 to 1.5 pounds from wettable powder/100 gallons, 1.0 to 3.0 pounds (quarts) from flowable formulation/acre, or 2.25 to 2.5 pounds as a dust/acre. Begin before disease is expected to appear or at first sign of infection. Repeat at 7 to 10-day intervals.

BEANS -- anthracnose, rust: Spray as above or use 2.38 pounds/100 gallons or 1.9 to 3.0 pounds as a dust/acre. Repeat at 4 to 7-day intervals. White mold (Sclerotinia) in Pacific northwest: 0.75 to 1.125 pounds/100 gallons or 3.0 pounds as a dust/acre. TOLERANCE: 7.0 p.p.m. LIMITS: 3.8 pounds/acre. Do not apply to snap beans within 4 days of picking.

BEETS -- leaf spot: 2.28 to 3.8 pounds as a dust/acre. Begin when disease appears. Repeat at 7 to 10-day intervals. TOLERANCE: 7.0 p.p.m. LIMITS: 3.8 pounds/acre. Do not apply within 7 days of harvest if tops are to be used as food or feed.

CABBAGE, CAULIFLOWER -- alternaria leaf spot, downy mildew: 2.8 pounds as a dust/acre. TOLERANCES: 7.0 p.p.m. on each crop. LIMITS: 3.0 pounds/acre. Do not apply within 7 days of harvest on each crop.

CUCURBITS (Cantaloupe, Cucumbers, Melons, Pumpkins, Squash, Watermelons) -- alternaria leaf blight, anthracnose, angular leaf spot, bacterial wilt (indirect control by repelling cucumber beetles), downy mildew, scab: Follow general directions beginning when plants are small. TOLERANCES: 7.0 p.p.m. on each crop. LIMITS: 3.8 pounds/acre. No time limitation. All crops.

CELERY -- early and late blights: Follow general directions beginning in the plant bed and continuing in the field at 5 to 10-day intervals. TOLERANCE: 7.0 p.p.m. LIMITS: 3.0 pounds/acre. Remove excess residues by stripping, trimming and washing.

EGGPLANT -- anthracnose, leaf spots: 1.14 to 1.52 pounds/100 gallons. Begin in plant bed when plants emerge. Repeat in plant bed and field at 7 to 10-day intervals or as necessary. TOLERANCE: 7.0 p.p.m. LIMITS: 3.0 pounds/acre. No time limitation.

PEPPERS -- anthracnose, leaf spot: 1.14 to 1.52 pounds/100 gallons. Begin in plant bed when plants emerge. Repeat in plant bed and field at 7 to 10-day intervals or as necessary. TOLERANCE: 7.0 p.p.m. LIMITS: 3.0 pounds/acre. No time limitation.