

# Technical Bulletin

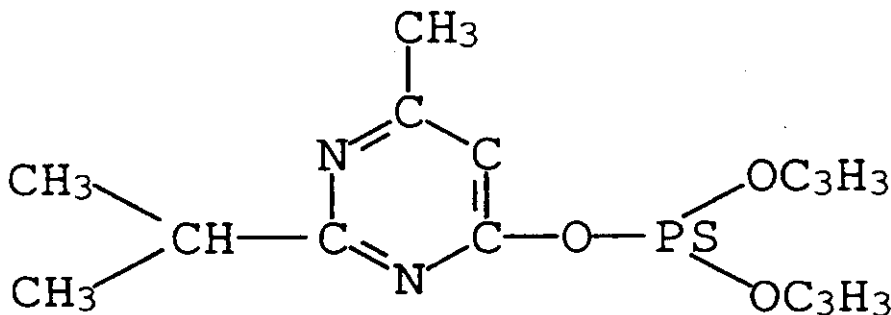
## D·Z·N® DIAZINON MG 22.4% WBC (Water-Based Concentrate) EPA Reg. No. 100-978

### For Repackaging Use Only

D·z·n Diazinon MG 22.4% WBC is a water-based insecticide concentrate which can be used for repackaging as described in this manual.

### Chemical and Physical Properties

Chemically, diazinon insecticide is 0,0-diethyl 0-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate, and has the following structural formula:



The empirical formula is  $C_{12}H_{21}N_2O_3PS$  with a molecular weight of 304.3. Technical Diazinon has a boiling point of 117-120° under 0.50 mm Hg, is light tan to brown in color, and is non-corrosive. Technical Diazinon dissolves readily in aliphatic and aromatic petroleum solvents, alcohols, and ketones, but is soluble in water to only 60 ppm. The vapor pressure of Technical Diazinon is  $1.06 \times 10^{-4}$  mm Hg at 25°C.

Freezing point of D·z·n® Diazinon MG 22.4% WBC: 0°C.

D·z·n® Diazinon MG 22.4% WBC becomes solid at this temperature. As temperature is raised, the D·z·n® Diazinon MG 22.4% WBC reconstitutes completely.

Viscosity: 470 cps at 20°C (typical).

**ACCEPTED**

NOV 27 2001

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
NPA Reg. No. 100-978

Specifications for D·z·n®  
Diazinon MG 22.4% WBC

- (1) Diazinon content, % by weight,  
NOMINAL 22.4
- (2) Flash point (PMCC) >200°F

Nominal Values

- (1) Weight per gallon pounds at 68°F 8.79
- (2) Density g/ml 1.053

Stability

Accelerated storage tests at higher temperatures have proven the stability of D·z·n® Diazinon MG 22.4% WBC. Stability problems should not occur if the recommendations are followed.

Equipment used to process and package this formulation should be cool, clean and dry.

Handling and Storage

Keep containers tightly closed. Store in a cool, dry place, away from heat and open flame. Do not hold partially full containers for extended periods of time.

Bulk Storage

D·z·n® Diazinon MG 22.4% WBC must be protected from contact with acids during storage.

D·z·n® Diazinon MG 22.4% WBC should be stored in stainless steel tanks which are fitted with a conversation vent to prevent free exchange between the tank and the atmosphere.

Tank fittings containing copper, brass or rubber should not be used.

Safety Precautions

After working with D·z·n® Diazinon MG 22.4% WBC, thoroughly clean contaminated equipment. Wash thoroughly, change clothing and clean protective gear. Launder contaminated clothing separately from non-contaminated clothing. Discard heavily contaminated articles which cannot be washed, such as leather shoes.

Some safety precautions to be followed in production plants where diazinon insecticides are being manufactured are as follows (refer to MSDS for more details):

- 1) In mixing areas, it is suggested that respirators be worn. (See list of acceptable respirators).
- 2) Street clothing should not be worn in mixing areas during the handling of material. Clothing contaminated with any chemical should be laundered before reuse, or discard if articles cannot be washed. Those directly exposed to a mixing process should wear rubber gloves, waterproof boots, chemical safety glasses and protective clothing.
- 3) A shower should be taken at the end of each day or immediately in the case of accidental exposure.
- 4) Food or smoking should not be permitted in a mixing area.
- 5) Workers should wash thoroughly before eating, drinking, or using tobacco products.
- 6) Maintenance workers should observe the same precautions and wear the same type of clothing as those directly concerned with mixing.

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### Respirators

The following respirators are among those which have been approved for use in pesticide manufacturing plants. Respirators should be maintained according to the manufacturer's directions.

- 1) American Optical Respirator assembly R-5000 with filter R-58 (American Optical Company, Safety Division, Southbridge, Massachusetts).
- 2) MSA half-mask respirator No. 448848 with cartridge filter No. 448847.
- 3) MSA full-face respirator No. 460560 with cartridge filter No. 448847. (Mine Safety Appliances Company, Pittsburgh, Pennsylvania).
- 4) Wilson pesticide respirator 1200 with filter R-11. Products Division, Ray-O-Vac Company, Reading, Pennsylvania.

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## Toxicology

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- 1) Slightly Toxic Acute Oral LD<sub>50</sub> (rat): 2,873 mg/kg.
- 2) Slightly Toxic Dermal LD<sub>50</sub> (rabbit): >2,020 mg/kg.
- 3) Slightly Toxic Inhalation LC<sub>50</sub> (rat): (four-hour exposure) >2.5 mg/l
- 4) Eye Irritation (rabbit): Minimally irritating.
- 5) Primary Skin Irritation: Non-irritating.
- 6) Skin Sensitization: Not a sensitizer (G. Pig)

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## Toxic Symptoms Which May Be Observed After Accidental Ingestion

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D-z-n® Diazinon MG 22.4% WBC is an organophosphate (Cholinesterase inhibiting) insecticide. These compounds are relatively poisonous to animals and humans. Symptoms of cholinesterase inhibition can include the following: headache, dizziness, blurred vision, nervousness, weakness, stomach and/or muscle cramps, diarrhea, discomfort in the chest, sweating, miosis (pinpoint pupils), tearing, salivation and other excessive respiratory tract secretion, vomiting, cyanosis, papilledema, uncontrollable muscle twitches, convulsions, coma, loss of reflexes and loss of sphincter control. (Refer to MSDS for more details).

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## Antidote

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Atropine is antidotal providing it is used as soon as early poisoning symptoms appear and the dose of diazinon is not too great. It is important to give large doses of atropine, up to ten times the usual dosage.

- I. In very severe cases, the order of treatment for adults should be as follows:
  - a. Artificial respiration, if required, preferably by mechanical means.
  - b. Atropine sulfate, 2 to 4 mg (1/30 to 1/15 grain) intravenously as soon as cyanosis is overcome. Repeat at 5- to 10-minute intervals until signs of atropinization appear (dry, flushed skin and tachycardia as high as 140 per minute).
  - c. 2-PAM slowly (pyridine-2-aldoxime methochloride), intravenously; if the patient fails to respond satisfactorily to atropine sulfate, dose of 1 g for adults, 0.25 g for infants. 2-PAM is of little value 24 hours after the time of poisoning.

- d. Lavage stomach if ingested and vomiting has not occurred. After lavage, instill and leave 30 g of activated charcoal in 3-4 ounces of water in stomach.
- e. Wash contaminated skin with soap and water.
- f. In case of contact with eyes, flush with plenty of water for at least 15 minutes and get medical attention.
- g. Symptomatic treatment.

II. In moderate or mild cases, proceed as follows:

- a. Atropine sulfate, 1 to 2 mg (1/60 to 1/30 grain) if symptoms appear. If excessive secretion occurs, keep the patient fully atropinized. Give atropine sulfate every hour up to 25 to 50 mg in a day.
- b. Lavage stomach.
- c. Wash contaminated skin with soap and water.
- d. In case of contact with eyes, flush with plenty of water for at least 15 minutes and get medical attention.
- e. Symptomatic treatment.

Note: Morphine, theophylline, aminophylline and large amounts of intravenous fluids are contraindicated. Atropine should not be given to a cyanotic patient until oxygenation has been restored by artificial respiration. Tranquilizers are seldom indicated and there is evidence that phenothiazine drugs increase mortality in experimental animals poisoned by organic phosphates.

FOR ADDITIONAL INFORMATION, contact the nearest Poison Control Center, or write to Environmental Safety and Compliance, Syngenta Crop Protection, Inc., P.O. Box 18300, Greensboro, NC 27419, or call 1-336-632-6000.

In case of emergencies, phone (day or night) 1-800-888-8372

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**Blood Cholinesterase**

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Since diazinon acts by inhibiting the enzyme cholinesterase, it is suggested that periodic checks be made of the blood cholinesterase levels in handlers.

Syngenta Crop Protection, Inc.  
P.O. Box 18300  
Greensboro, NC 27419

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