

5481-494

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JAN 19 2001

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Jon C. Wood
Regulatory Manager
Amvac Chemical Corporation
4695 MacArthur Court, Suite 1250
Newport Beach, CA 92660

Subject: Amendment - Update First Aid Statements and Response to Interim Tolerance
Reassessment Evaluation and Risk Management Document
Fortress 5G Granular Insecticide
EPA Registration No. 5481-493

Fortress 2.5G Granular Insecticide
EPA Registration No. 5481-494
Your submissions dated September 29, 2000

Dear Mr. Wood:

The labeling referred to above, submitted in connection with registration under section 3(c)(7)(A) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable subject to the comments listed below. Stamped copies of the labeling are enclosed for your records.

All required studies outlined in the Fortress Registration Notices, dated September 18, 1995, were submitted to the Agency and found acceptable. Therefore, the conditions of registration have been satisfied. However, since the Agency has not addressed cumulative effects of other organophosphates as a class, the registration will remain conditional without an expiration date until a cumulative assessment for all organophosphates has been completed.

Fortress 5G Granular Insecticide
EPA Registration No. 5481-493

1. Revise the Precautionary Statements section of the label to read: "Fatal if swallowed. May be fatal if inhaled. Causes moderate eye irritation. Harmful if absorbed through the skin. Do not breathe dust. Avoid contact with skin, eyes, or clothing. Wear a mask or pesticide respirator jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing and wash clothing before reuse."

7505c
SPICAT

- 2. Under the Environmental Hazards section of your label, please revise the sentence "Do not contaminate water..." to read "Do not contaminate water when cleaning equipment or disposing of equipment washwaters."
- 3. Correct "Users" to "User" in "User Safety Recommendations".

Fortress 2.5G Granular Insecticide
 EPA Registration No. 5481-494

- 1. Change the signal word from "Danger" to "Warning" on the front of the label and under the Precautionary Statements section. Delete the skull and crossbones and the word "Poison". This product is in toxicity category II for oral toxicity, therefore the signal word would only be "Warning".
- 2. Under the Precautionary Statements section of the label, replace the paragraph beginning with "May be fatal" with the following statements: "Harmful if absorbed through the skin. Causes moderate eye irritation. Wear a mask or pesticide respirator jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse."
- 3. Under the Environmental Hazards section of your label, please revise the sentence "Do not contaminate water..." to read "Do not contaminate water when cleaning equipment or disposing of equipment washwaters."
- 4. Correct "Users" to "User" in "User Safety Recommendations".
- 5. As indicated in our January 6, 1998 letter regarding storage stability, the loss of active ingredient in storage would render this product in efficacious. Your label should bear a two-year expiration date in compliance with 40 CFR 156.10(g)(6).

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e).

If you have any questions, please call Dr. William Sproat of my team at 703-308-8587.

Sincerely,

George T. LaRocca
 Product Manager 13
 Insecticide Branch
 Registration Division (7505C)

Enclosure

cc: Deanna Scher, SRRD

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RESTRICTED USE PESTICIDE

DUE TO ACUTE HUMAN, AVIAN, AND AQUATIC INVERTEBRATE TOXICITY
For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

AMVAC Fortress® 2.5G granular insecticide

For Use On Corn Only

To control corn rootworms, wireworms, cutworms, seed corn maggots, white grubs and symphylans on field corn, seed corn, sweet corn, and popcorn.

<u>Active Ingredient</u>	<u>By Weight</u>
Chlorethoxyfos: Phosphorothioic acid, O,O-diethyl O-(1,2,2,2-tetrachloroethyl)ester	2.5%
<u>Inert Ingredients</u>	97.5%
TOTAL	100.0%

Contains 2.5 lbs active ingredient per 100 lbs of granular insecticide

EPA REG. NO. 5481-494

EPA EST. NO. 34704-CO-1

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KEEP OUT OF REACH OF CHILDREN

DANGER



PELIGRO

POISON

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID

If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Emergency Telephone Number	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Questions? Call 1-323-264-3910.	

Note to Physician

This product is an organophosphate insecticide. ATROPINE IS THE EMERGENCY ANTIDOTE FOR FORTRESS INSECTICIDE POISONING. 2-PAM is also antidotal and may be used in conjunction with atropine. CALL A PHYSICIAN AT ONCE IN ALL CASES OF SUSPECTED POISONING.

Warning Symptoms

FORTRESS is an organophosphate insecticide and is a cholinesterase inhibitor. Overexposure to this product may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. Symptoms of poisoning may include weakness, headache, tightness in chest, blurred vision, non-reactive pin-point pupils, salivation, sweating, nausea, vomiting, diarrhea, muscle tremors and abdominal cramps. In severe cases, convulsions, unconsciousness and respiratory failure may occur.

Treatment

Atropine is the specific therapeutic antagonist of choice against this type of parasympathetic nervous stimulation. If warning symptoms appear, treatment should consist of parenteral atropine sulfate. This can be administered intramuscularly every 10 minutes until full atropinization (as indicated by dilated pupils, dry flushed skin and tachycardia) has been achieved and repeated thereafter whenever symptoms reappear. For infants and children, the dose of atropine sulfate is 0.05 mg/kg. For adults, 1 to 2 milligrams will be required for mild cases, but up to 4 mg may be needed for severe intoxication. 20 to 30 milligrams or more may be required during the first 24 hours.

Pralidoxime chloride (2-PAM chloride) may also be used as an effective antidote in addition to and while maintaining full atropinization. In adults, an initial dose of 1 gram of 2-PAM should be injected, preferably as an infusion in 250 cc of saline over a 15- to 30-minute period. If this is not practical, 2-PAM may be administered slowly by intravenous injection as a 5 percent solution in water over not less than two minutes. After about an hour, a second dose of 1 gram of 2-PAM will be indicated if muscle weakness has not been relieved. For infants and children, the dose of 2-PAM is 20 - 50 mg/kg. Morphine is an improper treatment.

Clear chest by postural drainage. Oxygen administration may be necessary. Observe patient continuously for 48 hours. Repeated exposure to cholinesterase inhibitors may, without warning, cause prolonged susceptibility to very small doses of any cholinesterase inhibitor. Allow no further exposure until cholinesterase regeneration has been attained as determined by blood test. For medical emergencies involving this product, call 1-323-264-3910.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER  PELIGRO
POISON**

MAY BE FATAL IF SWALLOWED OR INHALED. DO NOT BREATHE DUST. DO NOT GET IN EYES, ON SKIN, ON CLOTHING, OR IN FOOTWEAR.

Repeated exposure can lead to an asymptomatic increase in the susceptibility to poisoning. Avoid prolonged exposure to the product.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

Loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves (except for applicators) such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, Polyvinyl Chloride (PVC) ≥14 mils, or Viton ≥14 mils
- Loaders must also wear a respirator with either (1) an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), (2) a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or (3) a NIOSH approved respirator with an (OV) cartridge or a canister with any N, R, P or HE prefilter.

User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

Applicators must be in enclosed cabs and must:

- Wear the PPE specified above for applicators
- In addition to wearing the required PPE, have available for use coveralls, chemical-resistant gloves, and protective eyewear if it is necessary to exit the cab and contact pesticide-treated surfaces in the treated area
- Remove PPE that was worn in the treated area before reentering the cab, and
- Store all PPE in a chemical-resistant container, such as a plastic bag, to prevent contamination of the inside of the cab.

Users Safety Recommendations

- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should remove PPE immediately after handling this product. Wash the outside of the gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Double Notification: Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Chemical-resistant gloves such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, Polyvinyl Chloride (PVC) ≥14 mils, or Viton ≥14 mils
- Shoes plus socks.

Environmental Hazards

This pesticide is toxic to wild mammals, birds, fish, and aquatic invertebrates. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate. Apply this product only as specified on this label.

Granules lying on the soil surface at loading areas and in turning areas at row ends must be incorporated into the top 2-inch of soil using suitable incorporation equipment to remove the possible hazard to birds and other wildlife.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours. The REI is 72 hours where average rainfall is less than 25 inches per year. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Apply this product only as specified on this label. Do not apply this product through any type of irrigation system.

When emptying bags, pour downwind and allow the minimum of free fall of granules. Do not pour at face level and do not allow dust to reach the breathing zone.

General Information

FORTRESS 2.5G is a granular soil insecticide for use on corn (field, sweet, popcorn and seed) at planting for the control of northern, western and southern corn rootworms, wireworms, cutworms, seedcorn maggots, white grubs and symphylans.

Herbicide Compatibility Information

- Accent®, Basis® and all other corn herbicides may be applied to FORTRESS-treated corn.

Application Rate

- APPLY FORTRESS 2.5G AT 6.0 OZ. PER 1,000 FEET OF ROW FOR ANY ROW SPACING.

Application

FORTRESS 2.5G should be applied as a T-band over the planting row or applied in-furrow with a granular pesticide applicator properly calibrated to assure accurate placement and proper application rate. Both application methods are equally effective against corn rootworm. DO NOT apply as a surface band behind the press wheel.

T-Band Application at Planting:

- FORTRESS 2.5G can be applied in conventional, conservation or no-till corn as a T-band treatment. Place the granules in a band over the row behind the planter shoe and in front of the press wheel.

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- Granules must be incorporated into the top one-inch of soil using tines, chains or other suitable equipment.
- Optimal cutworm control can be obtained by applying FORTRESS 2.5G as a T-band treatment and incorporating into the top one-inch of soil. Heavy infestations of cutworm may result in sufficient numbers of larvae surviving the treatment and damaging the corn. If this occurs, apply a rescue treatment with Asana® XL insecticide or another insecticide registered for this use.

In-Furrow Application at Planting:

- FORTRESS 2.5G can be applied in conventional, conservation or no-till corn as an in-furrow treatment. Place the applicator tube either directly into or behind the planter shoe, so the granules drop into the seed furrow.
- The in-furrow application method provides optimal control of seed corn maggots, wireworms and white grubs.

Further Application Information:

- Granules exposed on the soil surface in the turn areas at the row ends and in loading areas must be incorporated into the top one-inch of soil immediately after treating fields by discing, harrowing or other suitable means.
- Do not make more than one application per year.
- Under windy conditions the use of wind shields is recommended to ensure proper placement of granules.
- FORTRESS 2.5G is non-corrosive to equipment and is nonflammable.

Crop Rotational Intervals

Corn..... Anytime
 Other crops 30 days

Determining the Amount of FORTRESS 2.5G per acre

The following rate chart shows how much product is needed per acre when treated at 6.0 oz per 1,000 ft of row.

For Example:

ROW SPACING (inches)	FORTRESS 2.5G (lbs./A)
40	5.0
38	5.2
36	5.5
34	5.8
32	6.1
30	6.5

10 acres of corn with 30-inch row spacing will require 65 lbs. (10 A. x 6.5 lbs/A = 65 lbs)

10 acres of corn with 36-inch row spacing will require 55 lbs. (10 A. x 5.5 lbs/A = 55 lbs)

CALIBRATION INSTRUCTIONS & GAUGE SETTINGS

Equipment Calibration

Equipment calibration ensures that the proper amount of FORTRESS 2.5G will be applied.

1. Fill hopper(s).
2. Attach a plastic bag(s) to tube opening(s).
3. Set your planter to the initial settings shown on chart.
4. Measure off 250 ft of row and drive planter the premeasured distance at your desired speed.
5. Each bag should contain 1.5 oz (wt.) of granules.
6. If the result is over or under 1.5 oz, adjust the settings for each hopper accordingly and repeat the calibration.

Approximate Equipment Gauge Settings FORTRESS 2.5G at 6 oz/1,000 ft of row					
Equipment	Speed in mph				
	4	5	6	7	8
Buffalo (with gauge)	7	9	11	13	14
Case International Harvester (one gauge per hopper) Gate/Dial	1 6.5	1 8	1 9	2 0.5	2 2.5
Case International Harvester (two gauges per hopper) Gate/Dial	1 7.5	1 8.5	1 9.5	2 1.5	2 3.3
Gandy	15	17	19	21	22
John Deere Maxi- Emerge 11 (adjustable knob-0-79)	14	16.5	19	22	25
John Deere 7000 Maxi-Emerge (Even) (0-10-20-30-40)	10	13	15	17	20
John Deere 7000 Maxi-Emerge (Odd) (5-15-25-35-45)	11	12	14	15	16
John Deere (metal box with 3 range settings and dial) Range/Notch	1 24	1 27	1 29	2 2	2 4
Kinze	10	12	14	16	18
Noble (round opening)	8	10	12	14	16
Noble (rectangular opening)	5	7	8	10	11
White	7	8	9	10	11

NOTE: These settings should be used as starting points only. Follow manufacturers recommendations for calibration of the specific equipment you are using or the calibration instructions above to make final adjustments. After initial calibration, recheck flow rate occasionally to make sure equipment wear, changing conditions, etc. have not caused a change in flow rate.

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STORAGE AND DISPOSAL

STORAGE: Store in a secure, locked, dry and temperate area where children, unauthorized persons or animals cannot enter. Store in original container. Keep the container closed when not in use. Do not transport or store near food or feed intended for human or animal consumption. Do not use or store in or around the home. Do not contaminate water, other pesticides, fertilizer, food or feed by storage or disposal.

PRODUCT DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or container is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conform to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use, subject to the inherent risks referred to herein, when it is used in accordance with such directions; and (c) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions.

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