

# SIGNET® 480 FS

## Seed Treatment

Intended for use by professional applicators only.

### ACTIVE INGREDIENT:

Thiram\* [Tetramethylthiuram disulfide] ..... 44.0%

**OTHER INGREDIENTS:** ..... 56.0%

**TOTAL:** ..... 100.0%

\* Equivalent to 4.0 lb Thiram per U.S. gallon or 480 g/l

**KEEP OUT OF REACH OF CHILDREN  
CAUTION / PRECAUCION**

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

**SEE INSIDE BOOKLET FOR FIRST AID AND  
PRECAUTIONARY STATEMENTS**

For Chemical Spill, Leak, Fire,  
or Exposure, Call CHEMTREC  
(800) 424-9300

For Medical Emergencies Only,  
Call (877) 325-1840

EPA Reg. No. 45728-26-55146

Manufactured for  
Nufarm Americas Inc., AGT Division  
150 Harvester Drive  
Burr Ridge, IL 60527



<b>FIRST AID</b>	
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION / PRECAUCION**

Harmful if swallowed. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Harmful if inhaled. Causes moderate eye irritation. Avoid breathing spray mist or vapor. Do not take alcohol immediately before or after exposure to this product. The consumption of alcohol by the applicator can increase the toxicity of the product. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

**All mixers, loaders, applicators and other handlers must wear:**

- Long-sleeved shirt and long pants,
- Shoes and socks,
- Chemical-resistant gloves, except for pilots and for handlers sewing bags of treated seed,
- Chemical-resistant apron when mixing, loading, participating in dip treatments, cleaning up spills, cleaning equipment or otherwise exposed to the concentrate,
- Respirator with an organic vapor (OV) cartridge or canister with any N, R, P filter.

**Note: Persons involved in bagging treated seed, sewing or moving bags of treated seed, or cleaning up bagging areas or seed treatment equipment are pesticide handlers and must wear the PPE required on this label for pesticide handlers.**

See engineering controls for additional requirements and options.

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 CONTROL STATEMENTS:**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

### **USER SAFETY RECOMMENDATIONS:**

- Wash thoroughly with soap and water after handling and 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 gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### **ENVIRONMENTAL HAZARDS**

This chemical is toxic to fish, aquatic invertebrates, oysters and shrimp. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water by cleaning of equipment or disposing of equipment washwaters or rinsate.

Treated seeds and bulbs are hazardous to fish, birds and mammals. Do not plant treated seeds by broadcasting to soil surface. Ensure that all seeds and bulbs are thoroughly covered with soil, especially in turn areas. If seeds and bulbs are not thoroughly incorporated by the planter during planting, additional incorporation may be required to thoroughly cover exposed seeds and bulbs.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination Systems (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. Do not apply where conditions favor drift from treatment area.

### **Endangered Species**

This product may have effects on federally listed threatened or endangered species or their critical habitat in some counties. It is a violation of Federal law to kill, harm or harass listed animal species without authorization. To limit the potential for such impacts when using this product, consult and follow the instructions provided in the EPA Endangered Species Bulletin for the County or Parish in which you are applying this product. To determine whether your County or Parish has a Bulletin, consult <http://www.epa.gov/espp> before each season's use of this product.

### **PHYSICAL AND CHEMICAL HAZARDS**

Keep away from heat and open flame.

### **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.

Do not graze treated areas or feed clippings to livestock.

### **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 intervals. 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 24 hours.

Exception: Once treated seed or bulbs are planted in soil or other planting media, the Worker Protection Standard allows workers to enter the treated area without restriction, if there will be no contact with the treated seeds or bulbs.

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, Shoes and socks, Chemical-resistant gloves made of any waterproof material and Protective eyewear.

## PRODUCT INSTRUCTIONS

**Seeds and Bulbs that are treated with this product and are then packaged or bagged for future use must contain the following labeling on the outside of the seed and bulb package or bag:**

"This bag contains [seeds, bulbs] treated with thiram. When opening this bag or loading/pouring the treated [seeds, bulbs], wear long-sleeved shirt, long pants, shoes, socks, and chemical-resistant gloves."

"**Endangered Species** - This bag contains seed treated with thiram. This product may have effects on federally listed threatened or endangered species or their critical habitat in some counties. It is a violation of Federal law to kill, harm or harass listed animal species without authorization. To limit the potential for such impacts when using this product, consult and follow the instructions provided in the EPA Endangered Species Bulletin for the County or Parish in which you are applying the seed. To determine whether your County or Parish has a Bulletin consult <http://www.epa.gov/espp> before each season's use of this product."

"Treated [Seeds, Bulbs] - Do Not Use for Food, Feed, or Oil Purposes."

"After the [seeds, bulbs] have been planted, do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours. Exception: Once the [seeds, bulbs] are planted in soil or other planting media, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no worker contact with the [seeds, bulbs]."

**In addition for cotton, wheat, barley, oats, and sugar beets, include the statement:**

"Plant [cotton, wheat, barley, oats, and sugar beet] seed a minimum of 1 inch deep."

**Note:** When using formulations that do not contain dye, to comply with 40 CFR 153.155, all seed treated with an economic poison must be colored to distinguish and prevent subsequent inadvertent use as a food for man or feed for animals.

### FOR TREATMENT OF CONIFEROUS SEED

**Damping-off protection:** Use 2 quarts of SIGNET 480 FS per 100 pounds of seed. Slowly add to the seed while turning in a tumbler such as a concrete mixer. Tumble seed for approximately 2 minutes and then spread coated seed on a screen to dry.

### FOR THE TREATMENT OF ORNAMENTAL BULBS, CORMS AND TUBERS

Treat any time after drying. Dip in a suspension made by mixing 1-1/2 pints of SIGNET 480 FS in 8 gallons of water. Agitate the suspension. If they are to be stored, spread out to dry.

### DIRECTIONS FOR USE AS A COMMERCIAL SEED TREATMENT

SIGNET 480 FS is a liquid fungicide recommended for the treatment of seeds listed in the following table. Used according to directions, SIGNET 480 FS will usually increase stands and yields by reducing losses from seed decay, damping-off and seedling blights caused by many seed borne and soil borne organisms. SIGNET 480 FS will usually control covered smuts or bunt of wheat, barley and rye and covered kernel smut of sorghum and will usually prevent basal rot and decay of ornamental bulbs and tubers. This product aids in the control of *Alternaria* and *Phoma* on canola. SIGNET 480 FS aids in the control of seed borne conidia produced from the honeydew inoculum from field infection of *Claviceps africana* (ergot) on sorghum seed.

**For Slurry-Type Treater:** SIGNET 480 FS should be applied with water as a suspension in the slurry-type treater specifically designed and approved for this purpose.

**For Film Coating Operations:** SIGNET 480 FS has demonstrated good to excellent compatibility with most commercial film coating products. Coating procedures identified by polymer/coating companies and film coating equipment manufacturers should be followed when preparing coating preparations containing SIGNET 480 FS. If it is desirable to prepare slurries in large containers for addition to the slurry tank, entire contents should be thoroughly agitated before withdrawing any of the slurry.

### SIGNET 480 FS TREATING RATES

SEEDS***	Fluid Ounces SIGNET 480 FS (Per bushel or 100 pounds)
Barley, Millet, Oats**, Rye, Sorghum, Triticale, Wheat	2.0/bu
Bean (Lima) and Peas	3.0/100 lbs
Beans (Snap & Dry, Soybeans, Cowpeas)	2.0/100 lbs
Beet (Garden), Swiss Chard	8.0/100 lbs
Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collards, Kale, Kohlrabi, Mustard, Turnip	8.0/100 lbs
Canola **	6.4/100 lbs
Cantaloupe, Cucumber, Pumpkin, Squash, Watermelon	4.5/100 lbs
Carrot, Endive, Lettuce, Pepper, Radish, Spinach	8.0/100 lbs
Castor bean**	4.5/100 lbs
Chicory **	4.5/100 lbs
Corn (Field)	1.5/bu
Corn (Sweet)	5.0/100 lbs
Cotton, acid -delinted	4.5/100 lbs
Cotton, reginned and fuzzy	4.5/100 lbs
Eggplant	6.5/100 lbs
Flax	3.0/bu
Grasses	8.0/100 lbs
Okra	6.0/100 lbs
Onion**	6.0/100 lbs
Ornamental flower seed**	8.0/100 lbs
Peanuts *	3.0/100 lbs
Rice	1.5/bu
Safflower, Sunflower	2.0/bu
Sesame	3.0/100 lbs
Small seed legume	8.0/100 lbs
Sugar beet	8.0/100 lbs
Tomato	6.0/100 lbs
All other vegetable seeds**	8.0/100 lbs

\*Note: In the treatment of peanuts, do not dilute with water.

\*\*Not registered for use in California.

\*\*\* Not for use for on-farm treatment

**Cotton Seed:** The maximum application rate for cotton seed is 1.6 oz ai/cwt (1,000 ppm). Plant treated cotton seed a minimum of 1 inch deep.

**Barley Seed:** Plant barley seed a minimum of 1 inch deep.

**Oat Seed:** Plant oat seed a minimum of 1 inch deep.

**Sugar Beet Seed:** Plant sugar beet seed a minimum of 1 inch deep.

**Wheat Seed:** Plant wheat seed a minimum of 1 inch deep.

**Onion Seed:** When 1.5 lbs ai/cwt is used, the onion seed must undergo pelletized treatment.

### FOR THE TREATMENT OF RICE SEED IN CALIFORNIA

SIGNET 480 FS is a liquid fungicide recommended for the treatment of rice seed in California.

Used according to directions, SIGNET 480 FS will usually increase stands and yields by reducing losses from seed decay, damping-off and seedling blights caused by seed borne and soil borne organisms.

SIGNET 480 FS may be used on well cured rice seed in California prior to pre-plant soaking. SIGNET 480 FS should be used with water as a suspension in treaters suitable for adequate mixing and accurate application to the seed. If it is desirable to prepare slurries in large containers for addition to treater tanks, entire contents should be thoroughly agitated before withdrawing any of the slurry for seed treatment.

**How to Use:** Rice seed treatment in California

#### Slurry Treaters:

Treater Tank Concentration	Application Rate
Mix 1 gallon of SIGNET 480 FS with 1 gallon of water	4 fluid ounces per 100 pounds of seed

#### Mist-O-Matic Treaters:

Treater Tank Concentration	Application Rate
Mix 1 gallon of SIGNET 480 FS with 1 gallon of water	4 fluid ounces per 100 pounds of seed

**Note:** To prevent water contamination in irrigation or drainage canals soak water should be retained in settling basins.

## STORAGE AND DISPOSAL

**Do not contaminate water, food or feed by storage or disposal.**

**PESTICIDE STORAGE:** Do not contaminate water, food, or feed by use or storage. Store in original containers only in a secured area inaccessible to children and unauthorized persons. Absorb spills onto clay, sand or vermiculite and hold for proper disposal. Protect from excessive heat. Keep from freezing.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate 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 HANDLING: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available.

### WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. To the extent consistent with applicable law, (1) the goods delivered to you are furnished "as is" by manufacturer or seller and (2) manufacturer and seller make no warranties, guarantees, or representations of any kind to buyer or user, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use, or eligibility of the product for any particular trade usage. Unintended consequences, including but not limited to ineffectiveness, may result because of such factors as the presence or absence of other materials used in combination with the goods, or the manner of use or application, including weather, all of which are beyond the control of manufacturer or seller and assumed by buyer or user. This writing contains all of the representations and agreements between buyer, manufacturer and seller, and no person or agent of manufacturer or seller has any authority to make any representation or warranty or agreement relating in any way to these goods.

### LIMITATION OF LIABILITY

To the extent consistent with applicable law, in no event shall manufacturer or seller be liable for special, incidental, or consequential damages, or for damages in their nature of penalties relating to the goods sold, including use, application, handling, and disposal. To the extent consistent with applicable law, manufacturer or seller shall not be liable to buyer or user by way of indemnification to buyer or to customers of buyer, if any, or for any damages or sums of money, claims or demands whatsoever, resulting from or by reason of, or rising out of the misuse, or failure to follow label warnings or instructions for use, of the goods sold by manufacturer or seller to buyer. All such risks shall be assumed by the buyer, user, or its customers. To the extent consistent with applicable law, buyer's or user's exclusive remedy, and manufacturer's or seller's total liability shall be for damages not exceeding the cost of the product.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**

07/11/11VLK(RV052410)

Signet is a trademark of Nufarm Americas Inc.