

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

PM 23 62719-188

PM 3/18

MAY 3 1994

Douglas M. Roby  
DowElanco  
9330 Zionsville Road  
Indianapolis, IN 46268-1053

Dear Mr. Roby:

Subject: Revised Precautionary Labeling  
Sonalan HFP  
EPA Registration No. 62719-188  
Your Submission Dated May 24, 1993

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following provisions:

- 1) Revise the sentence reading "Causes eye damage and skin irritation" appearing in the Precautionary Statements to read "Causes burns and irreversible eye damage."
- 2) Delete the phrase "...if irritation persists" from the end of the "If On Skin" statement.
- 3) Rewrite the "If Swallowed" statement to read as follows:  
  
"If swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Avoid alcohol. Get medical attention."
- 4) Rewrite the "Note to Physician" to read as follows:  
  
"Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage."
- 5) Rewrite the first sentence of the Pesticide Disposal statement to read "Pesticide wastes are acutely hazardous."
- 6) The product Lasso Micro-Tech is registered for use on dry beans only west of the Mississippi River, except California. Therefore, if a tank mix is recommended with this product for use on dry beans, this geographical restriction should be incorporated into the directions. Please refer to the Agency correspondence dated January 14, 1993.

CONCURRENCES

SYMBOL	7505C							
SURNAME	D. KENNY							
DATE	5/3/94							

7) Since Lasso Micro-Tech is not presently registered for use on peanuts, remove the reference to Lasso Micro-Tech as a recommended tank mix for use on peanuts. Please refer to the Agency correspondence dated January 14, 1993.

8) Please note that acceptable acute inhalation and dermal sensitization studies are still outstanding for this product. These studies must be submitted within eight (8) months of the date of this letter. If this condition is not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e).

A stamped copy is enclosed for your records. Please submit five (5) final printed copies for the referenced label, incorporating the above changes, before releasing the product for shipment.

This labeling does not bear the required Worker Protection statements as outlined in PR Notices 93-7 and 93-11. We note that you have submitted labels in accordance with the instructions in those Notices. The new protective language in those submissions must be incorporated into this label for any shipments released after the deadlines that have been established. You may opt to do so immediately if you are electing the self-verification option, or after acceptance by the special Agency Worker Protection Standard review group. Finished printed labels should be submitted after acceptance by the WPS group and in accordance with their instructions.

Sincerely yours,

Joanne I. Miller  
Product Manager (23)  
Fungicide-Herbicide Branch  
Registration Division (7505C)

Enclosure

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

5/21/93

(Editor's Note: Deleted text shown with strike-through and new text with underline)

[Label Booklet]

(logo) DowElanco

## Sonalan\* HFP

A selective herbicide for preemergence control of certain annual grasses and broadleaf weeds

**Active Ingredient:**

ethalfluralin: *N*-ethyl-*N*-(2-methyl-2-propenyl)-2, 6-dinitro-4-(trifluoromethyl)benzenamine .....

31.5%

Inert Ingredients ..... 68.5%

Contains 3 pounds active ingredient per gallon.

**Keep Out Of Reach Of Children**

### **WARNING** **DANGER**

Refer to attached label booklet for precautionary information and Directions for Use including STORAGE AND DISPOSAL.

**Notice:** Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of an emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

**Avoid Freezing - Store Above 40°F**

EPA Est. 1471-IN-2

EPA Reg. No. 62719-188

\*Trademark of DowElanco

DowElanco : Indianapolis, IN 46268, U.S.A.

**Herbicide**

**Net Contents 2.5 gal**

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

MAY 2 1993  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
62719-188

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

#### **DANGER**

#### **PELIGRO**

#### **WARNING — AVISO:**

Precaucion al usuario: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

~~Sonalan HEP Herbicide Is Irritating To The Eyes And Skin • Harmful If Swallowed Or Absorbed Through The Skin~~

~~Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Do not contaminate foodstuffs or feed. Use protective clothing such as coveralls, long-sleeved shirt and impermeable gloves when handling or using this product.~~

#### ~~First Aid~~

~~In case of contact, immediately flush eyes or skin with plenty of water. For eyes, call a physician. Remove and wash contaminated clothing before reuse.~~

~~Corrosive • Causes Eye Damage And Skin Irritation • Harmful If Swallowed Or Inhaled • May Cause Allergic Skin Reaction In Certain Individuals~~

~~Do not get in eyes, on skin or on clothing. Avoid breathing vapor or spray mist. Use eye protection and protective clothing such as coveralls over a short-sleeved shirt and short pants and chemical-resistant gloves when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.~~

#### ~~First Aid~~

~~If in eyes: Hold eyelids open and flush with a gentle, steady stream of water for 15 minutes. Get medical attention.~~

~~If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.~~

~~If swallowed: Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not induce vomiting or give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.~~

~~If inhaled: Remove victim to fresh air. Get medical attention if breathing difficulty occurs. If not breathing give artificial respiration, preferably mouth-to-mouth. Get medical attention.~~

~~Note to physician: This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce a severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6-8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.~~

#### Environmental Hazards

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. Runoff or erosion from treated areas may be hazardous to fish in neighboring areas.

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**Directions for Use**

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It is a violation of Federal law to use this product in a manner inconsistent with its labeling.  
Read all Directions for Use carefully before applying.

**STORAGE AND DISPOSAL**

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

**Storage:** Avoid freezing. Store above 40°F (5°C). If frozen, poor weed control may result. Do not use or store near heat or open flame. Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

**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 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.

**Plastic Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Metal Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

**Bulk/Mini-bulk Tank Handling:** Tanks that have been used for phenoxy-type herbicides should not be used for Sonalan HFP. To clean, triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

## **General Information**

Sonalan HFP is a preemergence herbicide that controls many annual grasses and broadleaf weeds. Sonalan HFP controls weeds as they germinate. Sonalan HFP will not control established weeds.

### **General Use Precautions**

Poor weed control and/or crop injury may result if directions are not followed. Uneven application, over application or improper incorporation can result in erratic weed control or injury to the treated or rotational crops.

Do not graze or forage crop grown in treated soil or cut for hay or silage.

Do not apply Sonalan HFP to soils which are wet, cloudy, or subject to prolonged periods of flooding because poor weed control or crop injury may result.

Do not apply to any area not specified on the label.

Chemigation: Do not apply this product through any type of irrigation system.

### **Rotation Crop Restrictions**

#### **Replanting**

If replanting is required, replant only crops listed on the label for Sonalan HFP.

#### **Sugar Beets or Red Beets**

Do not plant sugar beets or red beets within 13 months following an application of three (3) pints per acre or more of Sonalan HFP. Where less than three (3) pints per acre of Sonalan HFP have been applied, sugar beets or red beets may be planted no earlier than eight (8) months after an application and then only if the soil treated with Sonalan HFP is moldboard plowed to a depth of at least 12 inches prior to planting.

#### **Spinach or Oats**

In California and Arizona, do not plant spinach or oats within eight (8) months following an application of three (3) pints per acre or more of Sonalan HFP.

#### **Special Rotational Crop Restrictions for the State of Montana**

Plant only spring seeded barley (grown under irrigated conditions), rapeseed (canola), safflower or sunflower as rotational crops in the crop year following the crop treated with Sonalan HFP. If one of these specified crops is not planted, the land should be left idle or fallow for the entire year following the crop treated with Sonalan HFP.

### **Mixing Directions**

#### **Sonalan HFP - Alone**

Start with a clean spray tank. Fill sprayer one-third (1/3) to one half (1/2) full with clean water or liquid fertilizer. Start agitation. Add correct quantity of Sonalan HFP, continue agitation and finish filling the tank.

#### **Sonalan HFP in Tank Mix**

Vigorous continuous agitation is required for all tank mixes. Sparger pipe agitators generally provide the best agitation in spray tanks.

**Mixing Order:** Fill the tank one-fourth (1/4) to one-third (1/3) full with clean water or liquid fertilizer. (See page X for additional liquid fertilizer mixing instructions). Start the agitation. Add different formulation types to the spray tank in the following order: dry flowables (DF), wettable powders (WP), aqueous suspensions (AS), flowables (F), or liquids (L). Allow each product type to completely disperse before adding another. Allow additional mixing and dispersion time when

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using dry flowable (DF) products. Continue agitation and fill tank to three-fourths (3/4) full, add the Sonalan HFP or other emulsifiable concentrates (EC) and mix thoroughly. Then add any solution (S) formulations, agitate and finish filling. Maintain agitation during filling and through application. If spraying and agitation must be stopped before the tank is empty, the materials may settle to the bottom. In this case, it is important to resuspend all of the material in the bottom of the tank before continuing the spray application. A sparger agitator is particularly useful for this purpose. Sometimes it is more difficult to resuspend settled material than it is to suspend it originally.

Carefully follow all mixing instructions for each material added to the tank. Initial dispersion of dry or flowable formulations can be improved by mixing with a small amount of water (slurrying) and pouring the slurry through a 20 or 35 mesh wetting screen in the top of the spray tank. Line screens in the tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

If a buildup of material on the walls of the spray tank is observed, wash the tank with soapy water between fillings. Rinse and continue the spraying operation. Clean the tank, lines and screens thoroughly after use. Check the sprayer daily to ensure proper calibration and uniform application. Do not apply Sonalan HFP under wind conditions which may cause spray drift to nontarget areas or non-uniform application.

## Application Directions

**Ground Application:** Apply Sonalan HFP in at least five (5) gallons of water or liquid fertilizer per acre (broadcast basis), using any properly calibrated, low pressure herbicide sprayer that will apply the spray uniformly.

### Application with Liquid Fertilizer

Sonalan HFP may be mixed with most liquid fertilizer materials. Combinations of Sonalan HFP with solutions and suspension type fertilizers provide weed and grass control equal to the same rates of Sonalan HFP applied in water. For application in liquid fertilizer, follow label recommendations regarding crops, application rates, incorporation directions and precautions for Sonalan HFP alone.

Compliance with individual state regulations relating to liquid fertilizer mixing, registration, labeling and application is the responsibility of the individual and/or company offering the fertilizer and chemical mixture for sale.

**Liquid Fertilizer Mixing Instructions:** Emulsifiable concentrates, such as Sonalan HFP, can be mixed with liquid fertilizers. In all cases, continuous agitation is required to prevent the Sonalan HFP from rising to the surface as an oily layer. When necessary, (see "Testing for Tank Mix Compatibility in Liquid Fertilizers") a compatibility agent can be used to ensure that the Sonalan HFP emulsifies properly (i.e. forms a uniform mixture with a milky appearance rather than an oily layer). The use of compatibility agents is especially important when tank mixing emulsifiable concentrates (EC) with dry flowables (DF), wettable powders (WP), flowables (F), liquids (L), aqueous suspensions (AS), or solutions (S) in liquid fertilizer. If the emulsion is not properly formed and the EC rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse.

Any one of the following compatibility agents is helpful in causing emulsifiable concentrates to form non-oily mixtures with liquid fertilizers. These compatibility agents can be used at rates as low as one and one-half (1 1/2) to two (2) pints per ton of liquid fertilizer and should be mixed well with the fertilizer before adding the emulsifiable concentrate.

Read the label on the compatibility agent and follow the directions.

1. Sponto 168D (Witco Chemicals Co., Chicago, IL).
2. Compat (Farm Chemicals, Inc., Aberdeen, NC). Not for use in California.
3. Unite (Hopkins Ag Chemical, Madison, WI).

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4. -T-Mulz 734-2 (Thompson-Hayward Chemical Co., Kansas City, MO). Not for use in California.
5. Rigo Compatibility Agent (Rigo Company, Buckner, KY).
6. Amoco Spray Mate - (Amoco Oil Co., Chicago, IL). Not for use in California.
7. Kem-Link (Universal Coop, Minneapolis, MN).
8. Blendex (Helena Chemical Co., Cayce-West Columbia, SC).
9. Spray-Aide (Miller Chemical and Fertilizer Corp., Hanover, PA).

Each of the above is a phosphate ester type surfactant designed to be used with liquid fertilizers. They usually do not work well as compatibility agents in tank mixtures in water.

**Testing for Tank Mix Compatibility In Liquid Fertilizers:** Emulsifiable concentrates alone or in tank mixture with dry flowables (DF), wettable powders (WP), liquids (L), flowables (F), aqueous suspensions (AS), or solutions (S) may not combine properly with some fluid fertilizer materials. Small quantities should always be tested before full-scale mixing. This will determine whether a compatibility agent is needed and which agent does the best job. The nine (9) agents listed above have been thoroughly tested. There are many other surfactants on the market which were not designed for use with liquid fertilizers.

Use the following test to select the correct agent for your mixture.

1. Add one (1) pint of the liquid fertilizer to a quart jar.
2. Add one (1) to four (4) teaspoonful(s) of the DF, WP, L, F, or AS formulations (depending on the recommended rate per acre) to the liquid fertilizer. Close jar and agitate until dispersed evenly in the fertilizer. If the materials do not disperse well, it may be necessary to slurry the chemicals in water before adding to the fertilizer.
3. After dispersing the material (Step 2), add three (3) to four (4) teaspoonfuls of the Sonalan HFP to the jar and shake well. Add solution herbicides to the mixture last and agitate. Observe the jar for about 10 minutes. If the materials rise to the surface and form a thick layer (oily curds) which will not disperse when agitated, a compatibility agent is needed. If the mixture is easily dispersed to its original state with slight agitation, no agent is needed, but good agitation must be provided in the fertilizer spray tank.
4. If the need for a compatibility agent is shown in Step 3, use a clean quart jar, and starting at Step 1 above, add one-half (1/2) teaspoonful of the compatibility agent to the liquid fertilizer. Mix well. Repeat Steps 2 and 3.

An effective compatibility agent will cause the mixture to remain uniformly mixed with little or no separating or oil rising to the surface for one-half (1/2) hour or longer. If slight separation does occur, two (2) to three (3) inversions of the jar should give a uniform remix. If oily curds form which will not disperse, more agent or another agent should be tried.

Use a clean jar for each test. The compatible mixture will have a uniform appearance and will be relatively easy to keep mixed with gentle agitation of the jar.

#### **Application with Dry Bulk Fertilizer**

Dry bulk fertilizer may be impregnated or coated with Sonalan HFP. Application of dry bulk fertilizer impregnated with Sonalan HFP provides weed and grass control equal to the same rates of Sonalan HFP applied in liquid carriers. Follow label recommendations regarding crops, application rates, and precautions for Sonalan HFP alone.

**Application and Incorporation:** Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. Sonalan HFP should be incorporated 2 times when impregnated on dry bulk fertilizer. The first incorporation should occur within 48 hours after application. The second incorporation should be delayed 3 to 5 days after the first and be completed prior to planting.

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Compliance with individual state regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company offering the fertilizer and chemical mixture for sale.

**Limitations:** Apply a minimum of 200 pounds per acre of dry fertilizer impregnated with Sonalan HFP at the recommended rate. Most dry fertilizers can be used for impregnation with Sonalan HFP. When coated ammonium nitrate and/or limestone are used alone, do not impregnate with Sonalan HFP. These materials will not absorb the herbicide. Blends containing a mixture of these materials can be impregnated.

**Impregnation:** Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender. Nozzles used to spray the Sonalan HFP onto the fertilizer should be placed to provide uniform spray coverage. Add water to the Sonalan HFP to give a total volume of at least six (6) pints per ton of fertilizer.

### Grasses and Broadleaf Weeds Controlled by Sonalan HFP

Sonalan HFP applied preplant soil incorporated will control the following weeds, except as otherwise specified:

#### Grasses:

<u>Common Name</u>	<u>Scientific Name</u>
annual bluegrass	<i>Poa annua</i>
barnyardgrass	<i>Echinochloa crus-galli</i>
crabgrass	<i>Digitaria</i> spp.
(large crabgrass)	
(small crabgrass)	
Cupgrass, woolly	<i>Eriochloa villosa</i>
foxtail	<i>Setaria</i> spp.
(giant foxtail)	
(green foxtail)	
(foxtail millet)	
(pigeongrass)	
(yellow foxtail)	
johnsongrass (from seed)	<i>Sorghum halepense</i>
junglerice	<i>Echinochloa colonum</i>
oat, wild†	<i>Avena fatua</i>
panicum, fall	<i>Panicum dichotomiflorum</i>
panicum, Texas	<i>Panicum texanum</i>
(buffalograss)	
(Colorado grass)	
ryegrass, Italian	<i>Lolium multiflorum</i>
(annual ryegrass)	
sanbur, field	<i>Cenchrus incertus</i>
shattercane	<i>Sorghum bicolor</i>
(wild cane)	
signalgrass, broadleaf	<i>Brachiaria platyphylla</i>
(brachiaria)	
witchgrass	<i>Panicum capillare</i>

### Broadleaf Weeds:

**Common Name**

- buckwheat, wild
- carpetweed
- catchfly, conical
- chickweed, common
- fiddleneck tarweed
- groundcherry†† (annual)
  - (lanceleaf
  - groundcherry)
  - (Wright's
  - groundcherry)
- henbit
- kochia
- lambsquartars, common
- nightshade†† (annual)
  - (black nightshade)
  - (eastern black
  - nightshade)†††
  - (hairy nightshade)
- pigweed
  - (prostrate pigweed)
  - (redroot pigweed)
  - (smooth pigweed)
  - (tumble pigweed)
- purslane, common
- pusley, Florida
- rockpurslane, redmaids
- thistle, Russian

**Scientific Name**

*Polygonum convolvulus*  
*Mollugo verticillata*  
*Silene conica*  
*Stellaria media*  
*Amsinckia lycopsoides*  
  
*Physalis lanceifolia*  
  
*Physalis wrightii*  
  
*Lamium amplexicaule*  
*Kochia scoparia*  
*Chenopodium album*  
*Solanum* spp.  
  
*Amaranthus* spp.  
  
*Portulaca oleracea*  
*Richardia scabra*  
*Calandrinia caulescens*  
*Salsola kali*

† Sonalan HFP will provide wild oat control except those germinating below the zone treated with Sonalan HFP.

††See special instructions for control in dry bean.

†††See special instructions for partial control in soybean.

## Soil Preparation

**Factors that influence uniform application and incorporation of Sonalan HFP are:**

**Crop Residues or Existing Weeds:** Ground cover, such as crop residues or existing weeds can interfere with the incorporation of Sonalan HFP into the soil. A manageable level of such ground cover will allow the Sonalan HFP to be uniformly mixed into the top two (2) to three (3) inches of soil. If the level of the ground cover is such that this cannot be done, the soil must be tilled prior to the application of Sonalan HFP.

**Soil Roughness:** The soil surface should be smooth enough so that you can operate a sprayer and incorporation equipment efficiently and at speeds which ensure a uniform application and incorporation of Sonalan HFP.

**General Soil Conditions:** To assure uniform incorporation of Sonalan HFP, soil moisture conditions should be such that large clods can be broken up during the incorporation process.

## Soil Incorporation Directions

Use incorporation equipment that thoroughly and uniformly mixes Sonalan HFP into the top two (2) to three (3) inches of the seedbed, or erratic weed control and/or crop injury may result.

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**Incorporation Before Planting**

Sonalan HFP may be applied and incorporated up to three (3) weeks prior to planting. Thoroughly and uniformly mix Sonalan HFP into the top two (2) to three (3) inches of the seedbed within two (2) days after application.

**Incorporation in Bedded Culture**

**Application prior to bedding:** Apply Sonalan HFP and mix thoroughly into the top two (2) to three (3) inches of soil. The bedding operation provides additional mixing. Do not expose untreated soil during post-bedding operations.<sup>†</sup>

**Application after bedding:** Knock off beds to planting height before applying Sonalan HFP. Apply Sonalan HFP and mix thoroughly with equipment that will conform to the shape of the bed. Do not expose untreated soil during the incorporation process.<sup>†</sup>

<sup>†</sup>Avoid removal of treated soil from the seedbed before or during the planting operation. Exposure of untreated soil during planting will allow weeds to germinate in the drill row.

**Cultivation after Planting**

Soil treated with Sonalan HFP may be shallowly cultivated without reducing the weed control activity of Sonalan HFP. Do not cultivate deeper than the treated soil since weeds may germinate where untreated soil is brought to the surface.

**Soil Texture Guide for Application Rates**

Rate recommendations for Sonalan HFP are based on "Soil Texture Class" (coarse, medium or fine) and soil organic matter content. A fine textured soil (e.g., clay loam) will require higher application rate than a coarse textured soil (e.g., loamy sand). In the table below, find the "Soil Texture Class" (coarse, medium or fine) corresponding to the "soil texture classification of the soil to be treated". Choose the proper rate for each application based on the "soil texture classification" and specific crop recommendations. Do not exceed recommended rates required to control target weed species as determined by soil texture and organic matter.

Soil Texture Group	Soil Texture Classification of the Soil to be Treated
Coarse soils: (Light)	Sand, loamy sand, sandy loam
Medium soils:	Loam, silty clay loam <sup>‡</sup> , silt loam, silt, sandy clay loam <sup>‡</sup>
Fine soils: (Heavy)	Clay, clay loam, silty clay loam <sup>‡</sup> , silty clay, sandy clay, sandy clay loam <sup>‡</sup>

<sup>‡</sup>Silty clay loam and sandy clay loam soils are transitional soils and may be classified as either medium or fine textured soils. If silty clay loam or sandy clay loam soils are predominantly sand or silt they are usually classified as medium textured soils. If they are predominantly clay, they are usually classified as fine textured soils.

Where a rate range is shown for Sonalan HFP, use the lower rate in the rate range for coarser textured soils within the "soil texture group" or for soils with lower organic matter. Use the higher rate in the rate range for finer textured soil within the "soil texture group" or for soils with more than five percent (5%) organic matter. Where soil texture is variable within the same field use the higher recommended rate of Sonalan HFP for the most coarse "soil texture group" represented within the field. Sonalan HFP is not recommended for use on soils containing more than 10% organic matter.

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## **Approved Crops**

### **SOYBEANS**

#### **Sonalan HFP - Alone**

**General weed control, except groundcherry and nightshade:** Apply Sonalan HFP as a preplant incorporated treatment. Follow soil preparation, application, and incorporation procedures recommended in the "General Information" section of this label.

#### **Broadcast Rates/Acre**

<b>Soil Texture</b>	<b>Sonalan HFP</b>
	(pints)
Coarse	1 1/2 - 2
Medium	2 - 2 1/2
Fine	2 1/2 - 3

**General weed control and partial control of eastern black nightshade:** Apply Sonalan HFP as a preplant incorporated treatment for partial control of eastern black nightshade on medium and fine textured soils. Follow soil preparation, application, and incorporation procedures recommended in the "General Information" section of this label. Two incorporation passes are required for partial control of eastern black nightshade.

#### **Broadcast Rates/Acre**

<b>Soil Texture</b>	<b>Sonalan HFP</b>
	(pints)
Medium	3
Fine	3 1/2

**Precaution:** Soybeans should be planted no more than two (2) inches deep after early season adverse weather conditions have passed, especially when using higher rate programs. Excessively deep planting or cool, wet weather early in the growth cycle causes additional stress to the soybean plant. These factors may result in reduced stands, delayed maturity and reduced yields.

#### **Sonalan In Tank Mix Combination**

For broader spectrum weed control, Sonalan HFP may be used in tank mix combination with Canopy, Command, Dual, Lasso, Lasso Micro-Tech, Lexone, Preview, Sencor or Vernam herbicides. Consult each manufacturer's label for additional weeds controlled, directions for use, cautions and limitations before use.

Refer to supplemental labeling for Sonalan HFP for tank mixing instructions for Sonalan HFP plus Command, Sonalan HFP plus Command and Lexone, or Sonalan HFP plus Command and Sencor.

Do not use Scepter in tank mix combination with Sonalan HFP.

#### **Overlay Treatments Following Application of Sonalan HFP (Do Not Use in California)**

Apply Sonalan HFP as a preplant incorporated treatment. For broader spectrum weed control, Sonalan HFP preplant incorporated treatment may be followed by preemergence overlay treatments with certain products registered for use on soybeans. Consult each manufacturer's label for additional weeds controlled, directions for use, cautions and limitations before use. Do not use Scepter as an overlay preemergence treatment following a preplant incorporated treatment with Sonalan HFP.

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## Postemergence Treatments Following Application of Sonalan HFP (Do Not Use In California)

Apply Sonalan HFP as a preplant incorporated treatment. For broader spectrum weed control, Sonalan HFP preplant incorporated treatment may be followed by postemergence or layby treatments using certain products registered for use on soybeans. Consult each manufacturer's label for additional weeds controlled, directions for use, cautions and limitations before use. Do not use Scepter as a postemergence treatment following a preplant incorporated treatment with Sonalan HFP.

### DRY BEAN

(Does not include soybean)

#### Sonalan HFP - Alone

General weed control, except groundcherry and nightshade: Apply Sonalan HFP as a preplant incorporated treatment. Follow soil preparation, application, and incorporation procedures recommended in the "General Information" section of this label.

#### Broadcast Rates/Acre

Soil Texture	Sonalan HFP
	(pints)
Coarse	1 1/2-2
Medium	2-2 1/2
Fine	2 1/2-3

General weed control and control of annual groundcherry and nightshade from seed: Apply Sonalan HFP as a preplant incorporated treatment. Two incorporation passes are required for control of ground cherry and eastern black nightshade.

#### Broadcast Rates/Acre

Soil Texture	Sonalan HFP
	(pints)
Coarse	3-3 1/2
Medium	3 1/2-4
Fine	4-4 1/2

#### Sonalan In Tank Mix Combination

For broader spectrum control, Sonalan HFP may be used in tank mix combination with Dual, Eptam/EPTC, Lasso or Lasso Micro-Tech. Consult each manufacturer's label for additional weeds controlled, directions for use, cautions and limitations before use.

#### Overlay Treatments Following Application of Sonalan HFP

Apply Sonalan HFP as a preplant incorporated treatment. For broader spectrum weed control, Sonalan HFP preplant incorporated treatment may be followed by preemergence overlay treatments with certain products registered for use on dry beans. Consult each manufacturer's label for additional weeds controlled, directions for use, cautions and limitations before use.

#### Postemergence Treatments Following Application of Sonalan HFP

Apply Sonalan HFP as a preplant incorporated treatment. For broader spectrum weed control, Sonalan HFP preplant incorporated treatment may be followed by postemergence or layby treatments using certain products registered for use on dry beans. Consult each manufacturer's label for additional weeds controlled, directions for use, cautions and limitations before use.

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soil preparation, application, and incorporation section of this label.

silage.

in combination with Dual, consult the manufacturer's label for directions before use.

### Directions Following

For broader spectrum weed control, preemergence overlay, at registered for use on peanuts. Follow directions for use, cautions and

Apply Sonalan HFP to soil preparation, application, and incorporation section of this label.

cut for hay or silage.

In combination with Desoto. Consult the label for use, cautions and limitations.

### Following Application of Sonalan HFP

For broader spectrum weed control, preemergence overlay, at registered for use on sunflowers. Consult each manufacturer's label, directions for use, cautions and limitations before use.

**For groundcherry and nightshade:** Apply Sonalan HFP to soil preparation, application, and incorporation section of this label.

Sonalan HFP rates for weed control in dry peas or crop injury tests have been tested for tolerance to Sonalan HFP. Consult your Sonalan HFP to determine the tolerance of a particular pea variety. Application of Sonalan HFP to non-tolerant pea varieties may result in crop injury and reduce crop grown in treated soil or cut for hay or silage.

This product conforms to the chemical description on the label and is listed on the label when used in strict accordance with the directions and risks set forth below. DOWELANCO MAKES NO OTHER WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR IMPLIED WARRANTY.

Risks associated with use of this product. Crop injury, lack of effectiveness, or other consequences may result because of such factors as use of the product in conditions (including conditions noted on the label, such as soil conditions, etc.), abnormal conditions (such as excessive rainfall, presence of other materials, the manner of application, or other factors) beyond the control of DowElanco or the seller. All such risks shall be assumed by the buyer or user.

**Limitation of Remedies**  
All damages resulting from this product (including claims based on contract, tort, or other legal theories), shall be limited to, at DowElanco's option, the purchase price of the product.

Not to be used by buyer or user for product bought, or for other purposes than those for which the product is intended.

Losses or damages resulting from handling or use of this product shall be limited to the amount of such loss or damage in writing. In no case shall consequential or incidental damages or losses be recovered.

The limitation of remedies set forth above and this Limitation of Remedies cannot be varied by oral or written agreements. No employee or sales agent of DowElanco or the

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seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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(Base Label remains on container after label booklet is removed.)

(logo) DowElanco

# Sonalan\* HFP

A selective herbicide for preemergence control of certain annual grasses and broadleaf weeds

**Active Ingredient:**

ethalfuralin: N-ethyl-N-(2-methyl-2-propenyl)-2, 6-dinitro-4-

(trifluoromethyl)benzenamine . . . . .31.5%

Inert Ingredients . . . . .68.5%

Contains 3 pounds active ingredient per gallon.

## Precautionary Statements

**Hazards to Humans and Domestic Animals**

**Keep Out of Reach of Children**

**DANGER**

**PELIGRO**

**WARNING — AVISO:**

**Precaucion al usuario:** Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

**Sonalan HFP Herbicide Is Irritating To The Eyes And Skin • Harmful If Swallowed Or Absorbed Through The Skin**

**Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Do not contaminate foodstuffs or feed. Use protective clothing such as coveralls, long-sleeved shirt and impermeable gloves when handling or using this product.**

**First Aid**

**In case of contact, immediately flush eyes or skin with plenty of water. For eyes, call a physician. Remove and wash contaminated clothing before reuse.**

**Corrosive • Causes Eye Damage And Skin Irritation • Harmful If Swallowed Or Inhaled • May Cause Allergic Skin Reaction In Certain Individuals**

**Do not get in eyes, on skin or on clothing. Avoid breathing vapor or spray mist. Use eye protection and protective clothing such as coveralls over a short-sleeved shirt and short pants and chemical-resistant gloves when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.**

**First Aid**

**If in eyes:** Hold eyelids open and flush with a gentle, steady stream of water for 15 minutes. Get medical attention.

**If on skin:** Wash with plenty of soap and water. Get medical attention if irritation persists.

**If swallowed:** Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not induce vomiting or give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

**If inhaled:** Remove victim to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

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**Note to physician:** This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce a severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6-8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

#### **Environmental Hazards**

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. Runoff or erosion from treated areas may be hazardous to fish in neighboring areas.

#### **Directions for Use**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

#### **STORAGE AND DISPOSAL**

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

**Storage:** Avoid freezing. Store above 40°F (5°C). If frozen, poor weed control may result. Do not use or store near heat or open flame. Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

**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 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.

**Plastic Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Metal Container Disposal:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

**Bulk/Mini-bulk Tank Handling:** Tanks that have been used for phenoxy-type herbicides should not be used for Sonalan HFP. To clean, triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

Refer to inside of label booklet for additional precautionary information and Directions for Use.

**Notice:** Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of an emergency endangering life or property involving this product, call collect 517-636-4400.

**Agricultural Chemical:** Do not ship or store with food, feeds, drugs or clothing.

**Avoid Freezing - Store Above 40°F**

EPA Est. 1471-IN-2

EPA Reg. No. 62719-1EE

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DowElanco • Indianapolis, IN 46268, U.S.A.

**Herbicide**

**Net Contents 2.5 gal**

Revised 05/21/93

#### **Amendments:**

- 1) Revised Warning and Hazard statements.
- 2) Revised First Aid statements.

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