

DM 23 62719-170
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ELANCO ID 5036



Net Contents 2½ Gallons

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

Active ingredient:

ethallurain *N*-ethyl-*N*-(2-methyl-2-propenyl)-2,6-dinitro-
4-(trifluoromethyl)benzenamine 36.1%

Inert ingredients 63.9%

Contains 3 pounds active ingredient per gallon.
(Sonalan®-ethallurain, Elanco)

Keep Out of Reach of Children.

WARNING

See additional precautionary
statements inside booklet.

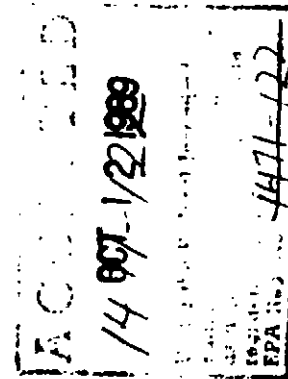
See directions for use inside booklet.

Elanco Products Company - A Division of Eli Lilly and Company
Indianapolis, IN 46285, U.S.A.

EPA Reg. No. 1471-122
EPA Est. 1471-IN-2
FN 0802

PI 3184 AMP

Avoid Freezing—Store Above 40°F.



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161****/EC**36/LABELS/US/****/321

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(Amben® chloramben Union Carbide)
 (Basagran® bentazone BASF)
 (Basta® alachlor Rohm and Haas)
 (Canopy® chloramben ethyl plus methidathion DuPont)
 (Eptam® chloramben ethyl DuPont)
 (Command® PIC)
 (Dual® metolachlor Lilly Corp)
 (Eptam® EPTC DuPont)
 (Lexone® chloramben ethyl plus bromo DuPont)
 (Lesso® dacthal Monsanto)
 (Prevex® methidathion DuPont)
 (Sencor® metolachlor DuPont)
 (Vernam® Imaza DuPont)
 (Vernam Plus® chloramben ethyl plus bromo DuPont)
 (Prevex® chloramben ethyl plus methidathion DuPont)
 (Scepter® alachlor Bayer) Scepter (R) - (Imazaquin, Cyanamid)
 (Atrazine® atrazine FMC)
 (Vernam® granular Starter)

Precautionary Statements

Keep Out of Reach of Children

Hazards to Humans and Domestic Animals

WARNING

Sonalan E C formulation is irritating to the eyes and skin. Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Do not contaminate feedstuffs or feed. Harmful if swallowed or absorbed through the skin. 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.

Environmental Hazards

This pesticide is toxic to fish. Do not apply directly to any body of water or wetlands. 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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STORAGE AND 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, spray mixture, or rinse water that cannot be used according to label instructions must be disposed of according to applicable federal, state or local procedures. Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinse water 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.

Plastic Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, 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.

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

General Agricultural Precaution

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 to soils which are wet, cloddy, 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.

Do not use Sonalan on any crop grown in the state of Minnesota.

Rotational Restrictions

Replanting

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

Sugar Beets or Red Beets

Do not plant sugar beets or red beets within thirteen (13) months following an application of three (3) pints or more per acre of Sonalan. Where less than three (3) pints of

Sonalan have been applied, sugar beets or red beets may be planted eight (8) months after an application of Sonalan, if the Sonalan treated soil is moldboard plowed to a depth of at least twelve (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.

Directions for Use

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

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

Mixing and Application Directions

Sonalan 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, continue agitation and flush filling the tank.

Sonalan Tank Mix

Vigorous, continuous agitation is required for all tank mixes. Sparger type agitators generally provide the best agitation in spray tanks. To prevent foaming, avoid stirring or splashing air into the mixture during filling by placing the end of the fill pipe below the surface of the water in the spray tank. Do not allow the mixture to siphon back into the water source.

Mixing order: Fill the tank one fourth (1/4) to one third (1/3) full with clean water or liquid fertilizer. (See page 3 for additional liquid fertilizer mixing instructions.) Start the agitation. Add in the following order: dry flowables (DF), wettable powders (WP), aqueous suspensions (AS), flowables (F), or liquids (L) to the water and agitate until the product(s) are completely dispersed. Allow additional mixing and dispersion time when using dry flowable (DF) products. Continue agitation and fill tank to three-fourths (3/4) full; add the Sonalan or other emulsifiable concentrates (EC) and mix thoroughly. Then add any solution (S) formulations, agitate and flush filling. Maintain agitation during filling and throughout 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.

Read and carefully follow all label instructions for each material added to the tank. Pre-mixing dry and flowable formulations with water (stirring) and pre-mixing the slurry through a

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20 or 35 mesh wetting screen in the top of the tank will help assure good initial dispersion in the tank. Fine 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. Raise 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 when the wind can cause drifting of spray particles which can result in non-uniform application.

Application

Ground Application: Apply Sonalan 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.

Chemigation: Refer to supplemental labeling entitled "Sonalan E.C. Chemigation Instructions" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

Application with Liquid Fertilizer

Sonalan may be mixed with most liquid fertilizer materials. Combinations of Sonalan with solutions and suspension type fertilizers have provided weed and grass control equal to the same rates of Sonalan applied in water. Follow Sonalan label recommendations regarding rates per acre, crops, incorporation directions, special instructions, cautions and special precautions.

Individual state regulations relating to liquid fertilizer mixing, registration, labeling and applications are the responsibility of the individual and/or company selling the fertilizer and chemical mixture.

Liquid Fertilizer Mixing Instructions

Emulsifiable concentrates, such as Sonalan, can be mixed with liquid fertilizers. In all cases, continuous agitation is required to prevent the Sonalan from rising to the surface as an oily layer. When necessary, (see Liquid Fertilizer Compatibility Test), a compatibility agent can be used to ensure that the Sonalan emulsifies properly (i.e., has 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 (oil out), the oil may combine with the wettable powder, flowable, or suspension to form oily lumps (viscous phase) which are difficult to disperse.

Any one of the following compatibility agents is helpful in carrying emulsifiable concentrates in tank mixing mixtures with liquid fertilizers. These compatibility agents can be used at rates as low as one and one-half (1½) 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 (Waco Chemicals Co., Chicago, IL)
- 2 Compal (Farm Chemicals, Inc., Aberdeen, NC) Not for use in California
- 3 Urte (Hoffman Ag Chemical, Madison, WI)
- 4 1 Maltz 734 2 (Thompson Hayward Chemical Co., Kansas City, MO) Not for use in California
- 5 Rapo Compatibility Agent (Fargo Company, Buckner, KY)
- 6 Amulco Spray Mate™ (Amulco Oil Co., Chicago, IL) Not for use in California
- 7 Kam-Luk (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 liquid 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 Put one (1) pint of the liquid fertilizer in 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 materials (Step 2), add three (3) to four (4) teaspoonfuls of the Sonalan 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 curd) 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, using a clean quart jar, start at Step 1 above. Add one-half (½) teaspoonful of the compatibility agent to the liquid fertilizer, mix well, then repeat Steps 2 and 3.

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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 remix with gentle agitation of the jar.

Application with Dry Bulk Fertilizer

Dry bulk fertilizer may be impregnated or coated with Sonalan. Application of dry bulk fertilizer impregnated with Sonalan has provided weed and grass control equal to the same rates of Sonalan applied in liquid carriers.

Follow Sonalan label recommendations regarding rates per acre, crops, special instructions, cautions and special precautions. For best results, Sonalan should be incorporated two times when applied impregnated on dry bulk fertilizers. The second incorporation must be delayed at least five (5) days after the first completed prior to planting and should be in a different direction from the first. Follow other Sonalan label recommendations for soil incorporation.

Individual state regulations relating to dry bulk fertilizer blending, registration, labeling and application are the responsibility of the individual and/or company selling the fertilizer and chemical mixture.

Limitations: Apply a minimum of 200 pounds per acre of dry fertilizer impregnated with Sonalan at the recommended rate. Most dry fertilizers can be used for Sonalan impregnation. When coated ammonium nitrate and/or limestone are used alone do not impregnate with Sonalan. These materials will not absorb the herbicide. Blends containing mixtures 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 onto the fertilizer should be placed to provide uniform spray coverage. Add water to the Sonalan to give a total volume of at least six (6) pints per ton of fertilizer.

Sonalan—Preplant Incorporated Application

Weeds Controlled

Sonalan applied preplant soil incorporated will control the following weeds:

Grasses:

Annual bluegrass	<i>Poa annua</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Catgrass	<i>Digitaria</i> spp.
(Blue catgrass)	
(Common catgrass)	
Foxtail	<i>Setaria</i> spp.
(Giant foxtail)	
(Green foxtail)	

(Foxtail millet)	
(Panicgrass)	
(Yellow foxtail)	
Goosegrass	<i>Elymus indica</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Jungle rice	<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)	
Sandbar field	<i>Cenchrus incertus</i>
Shattercane	<i>Sorghum bicolor</i>
(Wild cane)	
Signalgrass broadleaf	<i>Bracharia platyphylla</i>
(Bracharia)	
Witchgrass	<i>Panicum capillare</i>
Broadleaf Weeds:	
Buckwheat wild	<i>Polygonum convolvulus</i>
Carpetweed	<i>Mollugo verticillata</i>
Catchfly conical	<i>Stene comca</i>
Chickweed common	<i>Stellaria media</i>
Fiddleneck tarweed	<i>Amsinckia lycopsoides</i>
Groundcherry? (annual)	
(Lanceleaf groundcherry)	<i>Physalis lanceolata</i>
(Wright's groundcherry)	<i>Physalis Wrightii</i>
Henbit	<i>Lamium ariflexicaule</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, common	<i>Chenopodium album</i>
Nightshade? (annual)	<i>Solanum</i> spp.
(Black nightshade)	
(Eastern black nightshade)?	
(Hairy nightshade)	
Pigweed	<i>Amaranthus</i> spp.
(Prostrate pigweed)	
(Redroot pigweed)	
(Smooth pigweed)	
(Tumble pigweed)	
Purslane, common	<i>Portulaca oleracea</i>
Pursley Florida	<i>Rubiacula stricta</i>
Rocksaltwort retinoids	<i>Calandrinia carolinensis</i>
Triflate, Russian	<i>Salsola kali</i>

¹Sonalan will provide good but not complete control on egg-laying grasshoppers, before the Sonalan treated crop.
²See special instructions for control on dry grain.
³See special instructions for partial control of foxtails.

For best weed control results, the second incorporation should be delayed three (3) to five (5) days after the first.

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Soil Preparation—General Directions

Sonalan should be mixed uniformly into the top two (2) to three (3) inches of soil.

Factors that influence uniform application and incorporation of Sonalan are:

Crop Residues or Existing Weeds: Ground cover, such as crop residues or existing weeds, can interfere with the incorporation of Sonalan into the soil. A manageable level of such ground cover will allow the Sonalan 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.

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.

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

Soil Mixing Directions

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

Incorporation Before Planting

Apply Sonalan up to three (3) weeks prior to planting. Sonalan should be thoroughly and uniformly mixed 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 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.

Application after bedding: Knock off beds to planting height before applying Sonalan. Apply Sonalan and mix thoroughly with equipment that will conform to the bed shape. Do not leave untreated soil exposed.

* Avoid removal of treated soil from the seedbed before or during the planting operation. This would expose untreated soil, allowing weeds to germinate in the drift row.

Cultivation after Planting

Soil treated with Sonalan may be shallowly cultivated without reducing the weed control activity of Sonalan. Do not cultivate deeper than the treated soil since this may bring untreated soil to the surface and poor weed control may result.

Soil Texture Guide

The amount of Sonalan applied will vary with the soil texture and organic matter. A fine textured soil will require more Sonalan per acre than a coarse soil. Choose the proper rate based on the following soil texture group and specific crop

recommendations. Do not exceed recommended rates.

Soil Texture Group	Soil Classification
Coarse soils (Light)	Sand, loamy sand, sandy loam
Medium soils	Loam, silty clay loam*, silt loam, silty sandy clay loam*
Fine soils (Heavy)	Clay, clay loam, silty clay loam*, silty clay, sandy clay, sandy clay loam*

*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.

These recommendations are given as the broadcast rates of Sonalan per acre. Where a rate range is shown, use the lower rate for coarser textured soils or soils with lower organic matter. Use the higher rate where a rate range is shown on soils containing more than five percent (5%) organic matter. Where soil texture is variable within the same field, use the higher recommended Sonalan rate for the coarser textured soil. Sonalan is not recommended for use on soils containing more than 10% organic matter.

Crop Recommendations

Soybean—Sonalan Alone

General weed control—except groundcherry and nightshade.

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application, and incorporation procedures for Sonalan.

For broader spectrum weed control, Sonalan may be used in combination with Amben, Basagran, Blazer, Canopy Classic, Command, Dual, Eptam, Gemini, Lasso, Lexone, Lorox, Lorox Plus, Prowal, Sencor, Tackle, or Vernam Head. Use the combination product label for directions, cautions, and limitations prior to use.

Broadcast Rates per Acre

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

Eastern Black Nightshade—Partial Control:

Sonalan should be applied as a preplant incorporated treatment for partial control of nightshade in medium and fine textured soils. Follow recommended soil preparation and application procedures for Sonalan. Two incorporation passes are required for partial control of eastern black nightshade. For

broader spectrum weed control, Sonalan may be used in combination with Amiben, Basagran, Blazer, Dual, Las-o, Lexone, Linn, Sencor and Veram. Read the combination product label for directions, cautions and limitations prior to use.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Medium	3
Fine	3½

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.

Soybean—Sonalan/Amiben* Tank Mix

Sonalan/Amiben should be applied as a preplant incorporated tank mix. The Sonalan/Amiben combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade Velvetleaf
Common ragweed Wild mustard
Pennsylvania smartweed

Broadcast Rates per Acre

Soil Texture	Sonalan		Amiben	
	General Weed Control	Partial Control of Eastern Black Nightshade	Amiben 2S	Amiben DS
	(pints)	(pints)	(quarts)	(pounds)
Coarse	1½ 2	N/A	4 6**	2 4 3 6**
Medium	1½ 2½	3*	4 6	2 4 3 6
Fine	2½ 3	3½*	4 6	2 4 3 6

* Two incorporation passes are required for partial control of eastern black nightshade.

** Use the higher rate where heavy populations of smothered velvetleaf, ragweed, wild mustard or black nightshade are expected. Read the Amiben label for additional weeds controlled, directions, cautions and limitations prior to use.

Soybean—Sonalan/Canopy** Tank Mix (Do Not Use in California)

Sonalan/Canopy should be applied as a preplant incorporated tank mix. The Sonalan/Canopy combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Controlled
Common cocklebur Prickly sida (Teaweed)
Florida ragweed

Hemp sesbania
Hornedbeam, copperleaf
Jimsonweed
Morningglory (bicolor) (hybrid) (Pitted) (Smallflower) (Tall)
Ragweed (Common) (Giant)
Sicklepod
Smartweed
Spotted spurge
Sunflower
Velvetleaf (Bullweed)

Additional weeds partially controlled by this combination include:

Purple nutsedge
Yellow nutsedge

Large seeded weeds germinating deep in the soil, such as morningglory, sicklepod, cocklebur and giant ragweed or weeds with subsequent flushes may require a cultivation or an application of a postemergence herbicide for season long control.

Follow recommended soil preparation, application and incorporation procedures for Sonalan. Plant soybeans within two (2) weeks after application.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)	Canopy Dispersible Granules	
		0.5-3% O.M.	3-5% O.M.
		(ounces)	(ounces)
Coarse	1½ 2	6 - 8	8 - 10
Medium	1½ 2½	8 - 10	10 - 12
Fine	2½ 3	10 - 12	12 - 14

Do not apply Canopy to soil with less than ½% organic matter.

Use higher rates of Canopy on soils with higher organic matter or heavy pressure from large deep germinating weed seeds.

Where Canopy is applied, plant soybean seed 1½" to 2" deep on a flat or raised seedbed only, or crop injury may occur.

Soybean injury may occur where Canopy is applied if excessive rainfall occurs after application but before soybeans germinate.

Precautions: Read the Canopy label carefully for cautions and precautions relating to environmental hazards, planting of rotation crops, sprayer contamination and cleanup, soil pH, organic matter and soil texture use restrictions, soybean variety planting restrictions, restrictions where Alazine or Surflan were used the previous year, restrictions concerning use with organic phosphate pesticides, grazing restrictions and other directions, precautions and limitations before applying the Sonalan/Canopy tank mix.

Read the Canopy label for additional weeds controlled, directions, cautions and limitations prior to use.

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Soybean—Sonalan/Command® Tank Mix (Do Not Use in California)

Sonalan/Command should be applied as a preplant incorporated tank mix treatment. The Sonalan/Command combination effectively controls the weeds listed for Sonalan alone for general weed control plus:

Velvetleaf (Buttonweed)

Additional weeds partially controlled by this combination include:

- | | |
|--------------------------|------------------------|
| Annual morningglory | Pennsylvania smartweed |
| Common ragweed | Prickly sida |
| Eastern black nightshade | (Teaweed) |
| Jimsonweed | Vernice mallow |

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Application Directions: Tank mixed Sonalan/Command should be applied as a preplant incorporated treatment. Apply Sonalan/Command up to three (3) weeks prior to planting.

Do not apply aerially or through irrigation equipment.

Apply Sonalan/Command using a finished spray volume of 10 to 40 gallons of water per acre. NOTE: The use of an agriculturally approved drift reducing additive is required at finished spray volumes of 10-15 gallons per acre. Use nozzles suitable for broadcast boom application of herbicides. Coarse sprays are less likely to drift out of the target area than fine sprays.

Incorporation Directions: Sonalan/Command must be incorporated immediately after application. Sonalan/Command should be thoroughly and uniformly mixed into the top 2 to 3 inches of the final seed bed. Application to overly moist or wet soils will also increase the potential for off site movement of Command vapors and may result in poor soil incorporation and unsatisfactory weed control. These directions must be followed to reduce the potential for off site movement of Command vapors and potential injury to desirable vegetation including adjacent crops, trees and ornamentals.

Broadcast Rates per Acre

Soil Texture	Sonalan	Command 4 E C
	(pints)	(pints)
Coarse	1 1/2	1/2
Medium	1 1/2	1 1/2
Fine	2 1/2	1 1/2

Special Precaution: Off-site movement of spray drift or vapors of Command can cause foliar whitening or yellowing of adjacent crops, trees and ornamental plants which is usually temporary in nature but can result in permanent injury or death of the plants if exposure is excessive. Prior to making application of this product read and strictly follow all precautions and application instructions on the Command label.

Read the Command label carefully for additional directions, cautions and limitations prior to use.

Soybean—Sonalan/Command®/Lexone® or Sonalan/Command®/Sencor® Tank Mix (Do Not Use in California)

Sonalan plus Command and Lexone or Sencor should be applied as a preplant incorporated tank mix treatment. Sonalan/Command, Lexone or Sencor controls those weeds listed for Sonalan alone for general weed control plus these additional weeds:

- | | |
|------------------------|----------------|
| Common ragweed | Spotted spurge |
| Hemp sesbana | Velvetleaf |
| Jimsonweed | Vernice mallow |
| Pennsylvania smartweed | Wild mustard |
| Prickly sida | |
| (Teaweed) | |

Additional weeds partially controlled by this combination include:

- | | |
|---------------------|---------------|
| Annual morningglory | Giant ragweed |
| Common cocklebur | |

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Application Directions: Tank mixed Sonalan/Command, Lexone or Sencor should be applied as a preplant incorporated treatment. Apply Sonalan/Command, Lexone or Sencor up to two (2) weeks prior to planting.

Do not apply aerially or through irrigation equipment.

Apply Sonalan, Command, Lexone or Sencor using a finished spray volume of 10 to 40 gallons of water per acre. NOTE: The use of an agriculturally approved drift reducing additive is required at finished spray volumes of 10-15 gallons per acre. Use nozzles suitable for broadcast boom application of herbicides. Coarse sprays are less likely to drift out of the target area than fine sprays.

Incorporation Directions: Sonalan/Command, Lexone or Sencor must be incorporated immediately after application.

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Read the Lasso label for additional weeds controlled, directions, cautions and limitations prior to use.

Soybean—Sonalan/Lexone* or Sonalan/Sencor* Tank Mix

Sonalan plus Lexone or Sencor should be applied as a preplant incorporated tank mix. Do not allow Sonalan or Sonalan/Sencor tank mix to remain in the tank overnight. The Sonalan/Lexone or Sonalan/Sencor combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- | | |
|------------------------|----------------|
| Common ragweed | Prickly sida |
| Hemp sesbania | Velvetleaf |
| Jimsonweed | Vernice mallow |
| Pennsylvania smartweed | Wild mustard |

Control of cocklebur, morningglory, and giant ragweed may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved with timely cultivation.

Follow recommended soil preparation, application, and incorporation directions for Sonalan.

Broadcast Rates per Acre

Soil Texture	Sonalan		Lexone or Sencor	
	General Weed Control	Partial Control of Eastern Black Nightshade	Lexone 4L or Sencor 4	Lexone Dry Flowable or Sencor Dry Flowable
	(pnts)	(pnts)	(pnts)	(pounds)
Coarse	1½ 2	N/A	½**	½**
Medium	1½ 2½	3*	¾	¾
Fine	2½ 3	3½*	1	1

*Two incorporation passes are required for partial control of eastern black nightshade.

**Do not use Lexone/Sencor on coarse soils with less than one percent (1%) organic matter.

Additional Precaution: For Lexone/Sencor tank mixes, do not plant any crop other than soybeans within four (4) months after treatment. Over application, uneven application or improper soil incorporation may result in crop injury. Soil residue or erratic weed control. Seeding disease, cold weather, deep planting, excessive moisture, soil pH over seven and one half (7.5), high salt concentration or drought may weaken crop seedlings and increase possibility of damage from the Sonalan/Lexone or Sonalan/Sencor tank mix. Under these conditions, delayed crop development or reduced yields may result. Read the Lexone and Sencor labels for directions, cautions and limitations prior to use. Do not use the foliage from soybeans treated with Lexone or Sencor for feed or forage.

Soybean—Sonalan/Preview* Tank Mix (Do Not Use in California)

Sonalan/Preview should be applied as a preplant incorporated tank mix. The Sonalan/Preview combination controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- | | |
|------------------------|----------------|
| Annual smartweeds | Prickly sida |
| Common cocklebur | (Teaweed) |
| Common ragweed | Spotted spurge |
| Hopfernbean copperleaf | Sunflower |
| Jimsonweed | Velvetleaf |
| Mustards | |
| Peeweed | |
| (Plains amaranth) | |
| (Smooth) | |
| (Tall waterhemp) | |

Additional weeds partially controlled by this combination include:

- | | |
|--------------------------|------------------|
| Buckwheat | Morningglory |
| Eastern black nightshade | (Tall) |
| Giant ragweed | (Hybrid) |
| | (Pitted) |
| | (Eriogonum) |
| | Nutsedge species |

Large seeded weeds, germinating deep in the soil such as morningglory, sicklepod, cocklebur and giant ragweed or weeds with subsequent flushes may require a cultivation or an application of a postemergence herbicide for season long control.

Follow recommended soil preparation, application and incorporation procedures for Sonalan. Plant soybeans within two (2) weeks after application.

Broadcast Rates per Acre

Soil Texture	Sonalan	Preview Dispersible Granules	
		0.5-3% O.M.	3-5% O.M.
	(pnts)	(ounces)	(ounces)
Coarse	1½ 2	6	7
Medium	1½ 2½	7	8
Fine	2½ 3	8	9-10

Do not apply Preview to soil with less than ½% organic matter.

Use higher rates of Preview on soils with higher organic matter or heavy pressure from large deep germinating weed seeds.

When Preview is applied, plant soybean seed 1½" to 2" deep on a flat or tared seedbed only or crop injury may occur.

Soybean injury may occur where Preview is applied if excessive rainfall occurs after application but before soybeans germinate.

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Precautions: Read the Preview label carefully for cautions and precautions relating to environmental hazards, planting of rotation crops, sprayer contamination and cleanup, soil pH, organic matter and soil texture use restrictions, soybean variety planting restrictions, restrictions where atrazine or Sencor[®] were used the previous year, restrictions concerning use with organophosphate pesticides, grazing restrictions and other directions, precautions and limitations before applying the Sonalan/Preview tank mix.

Read the Preview label for additional weeds controlled, directions, cautions and limitations prior to use.

Soybean—Sonalan/Lasso/Lexone or Sonalan/Lasso/Sencor Tank Mix

Sonalan plus Lasso and Lexone or Sencor should be applied as a preplant incorporated tank mix treatment. Do not allow the Sonalan/Lasso/Lexone or Sencor tank mix to remain in the tank overnight.

Sonalan/Lasso/Lexone or Sencor controls those weeds listed for Sonalan alone for general weed control plus these additional weeds:

- | | |
|------------------------|-----------------------|
| Black nightshade | Sesbania (Coffeebean) |
| Crowfootgrass | (Coffeeweed) |
| Gambusia | (Coffeeweed) |
| Hairy nightshade | Shepherdspurge |
| Jimsonweed | Spotted spurge |
| Milkweed | Spurred anoda |
| Mustard wild | Velvetleaf |
| Pennsylvania smartweed | Yellow nutsedge |
| Red rice | |

Additional weeds partially controlled by this combination include:

- | | |
|--------------------|-----------------------|
| Common ragweed | Spiny sida (leafweed) |
| Florida beggarweed | |

Follow recommended soil preparation recommendations for Sonalan. Apply the tank mixes at a minimum of 150 gallons of water or liquid fertilizer per acre. Set equipment to mix the soil no deeper than four inches. Apply the tank mix up to seven (7) days prior to planting.

Use a minimum of four and one-half (4 1/2) quarts of Lasso per acre to control these weeds. The rate is to be four (4) quarts of Lasso per acre on medium and fine textured soils to control the weeds.

Broadcast Rates per Acre		Lasso or Micro-Tech	Lexone or Sencor
Sonalan	Partial Control of Eastern Black Nightshade	(quarts)	Lexone Dry Flowable or Sencor Dry Flowable (pounds)
	General Weed Control	(pints)	
Soil Texture	Coarse	2 1/4	1/2
	Medium	3	3/4
	Fine	3 1/2	1

*Two incorporation passes are required for partial control of eastern black nightshade.

**Do not use Lexone or Sencor on coarse soils with less than one (1) percent organic matter.

Read the Lasso/Lexone or Sencor label for additional weeds controlled, directions, cautions and limitations prior to use.

Soybean—Sonalan/Dual/Lexone or Sonalan/Dual/Sencor Tank Mix

Sonalan plus Dual and Lexone or Sencor should be applied as a preplant incorporated tank mix treatment. Do not allow the Sonalan/Dual/Lexone or Sencor tank mix to remain in the tank overnight.

Sonalan/Dual/Lexone or Sencor controls those weeds listed for Sonalan alone for general weed control plus these additional weeds:

- | | |
|------------------------|----------------------|
| Black nightshade | Shepherdspurge |
| Crowfootgrass | Southwestern cupress |
| Gambusia | Spotted spurge |
| Jimsonweed | Spurred anoda |
| Pennsylvania smartweed | Velvetleaf |
| Prarie cupress | Vernice milkweed |
| Red rice | Wild mustard |
| Sesbania (Coffeebean) | Yellow nutsedge |
| (Coffeeweed) | |

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Additional weeds partially controlled by this combination include:
 Flax nightshade Volunteer sorghum
 Follow recommended soil preparation recommendations for Sonalan. Apply the tank mixes in a minimum of ten (10) gallons of water or liquid fertilizer per acre. Mix the tank mix into the top two (2) inches of soil. Apply the tank mixes up to fourteen (14) days prior to planting.

Soybean—Sonalan/Vernam Tank Mix
 Sonalan plus Vernam should be applied as a preplant incorporated tank mix treatment.
 Sonalan/Vernam effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:
 Annual morningglory Velvetleaf
 Purple nutsedge Yellow nutsedge
 Sicklepod
 Apply Sonalan/Vernam at at least ten (10) gallons per acre of water or liquid fertilizer. Follow recommended soil preparation procedures. Incorporate the tank mix immediately following application. Read the Vernam label for additional directions, cautions and limitations prior to use.

Broadcast Rates per Acre
 Use the recommended rates listed for Sonalan and Dual for the two-way combination, and the recommended rate of Lexone or Sencor for the Sonalan-Dual-Lexone or Sencor tank mix.

Soil Texture	Sonalan		Dual		Lexone or Sencor	
	General Weed Control	Partial Control of Eastern Black Nightshade	Less than 3% O.M.	3% O.M. or Greater	Lexone 4L Dry Flowable or Sencor 4	Lexone 4L Dry Flowable or Sencor 4
Coarse	1 1/2 2	NA	1 1/2-2	(pints) 2	(pounds) 1/3**	1/3**
Medium	1 3/4 2 1/2	3*	2-2 1/2	2-2 1/2	1/2**	1/2**
Fine	2 1/4 3	3 1/2	2-2 1/4	2 1/2-3	1	1/2

*Two incorporation passes are required for partial control of eastern black nightshade.
 **Do not use Sencor or Lexone on coarse soils with less than one (1) percent organic matter.
 †Based on Dual, Lexone and Sencor labels for additional weeds controlled. Directions and limitations apply to use.

Broadcast Rates per Acre

Soil Texture	Sonalan		Vernam 7E
	General Weed Control	Partial Control of Eastern Black Nightshade	
Coarse	(pints) 1 1/2 2	(pints) N A	(pints) 2 1/2
Medium	1 3/4 2 1/2	3*	3
Fine	2 1/4 3	3 1/2*	3

*Two incorporation passes are required for partial control of eastern black nightshade.
 †Read the Vernam label for additional weeds controlled. Directions, cautions and limitations apply to use.
Soybean—Sonalan Preplant Incorporated Followed by Overlay Treatments (Do Not Use in California)
 Sonalan should be applied as a preplant incorporated treatment. Additional weeds tolerant to Sonalan may be controlled by using overlay preemergence applications of Amiben®, Canopy®, Dual®, Genm®, Lasso®, Lexone®, Lora®, Lora® Plus, Preview®, or Sencor®. Consult these product labels for additional weeds controlled, application directions and precautions before use.
Soybean—Sonalan Preplant Incorporated Followed by Postemergence Treatments (Do Not Use in California)
 Sonalan should be applied as a preplant incorporated treatment. Additional weeds tolerant to Sonalan may be controlled by using postemergence applications of Basagran®, Blazer®, Classic®, or Tackle®. Consult these product labels for additional weeds controlled, application directions and precautions before use.

Dry Bean—Sonalan Alone
 (Does not include soybean)
 Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application, and

NOTE: DO NOT USE Sonalan plus Scepter as a two-way preplant incorporated tank mix.

Do not use Scepter as an overlay preemergence treatment following a preplant incorporated treatment with Sonalan.

Do not use Scepter as a postemergence treatment following a preplant incorporated treatment with Sonalan.

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incorporation procedures for Sonalan

General weed control—except groundcherry and nightshade:

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	1½ 2
Medium	2 2½
Fine	2½ 3

For broader spectrum control, Sonalan may be used in combination with Amiben, Dual, Eptam or Lasso. Read the combination product label for directions, cautions, and limitations prior to use.

Groundcherry and Nightshade control (annual)—dry bean:

Two incorporation passes are required for groundcherry and nightshade control.

Do not use these Sonalan rates for garden bean, green bean, snap bean, or string bean.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)
Coarse	3 3½
Medium	3½ 4
Fine	4 4½

For broader spectrum control, Sonalan may be used in combination with Amiben, Dual, Eptam or Lasso. Read the combination product label for directions, cautions, and limitations prior to use.

Dry Bean—Sonalan/Amiben* Tank Mix or Overlay

Sonalan/Amiben should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by an Amiben overlay.

The Sonalan/Amiben combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Black nightshade
- Common ragweed
- Pennsylvania smartweed
- Vetch
- Wild mustard

Follow recommended soil preparation, application, and incorporation procedures for Sonalan.

Broadcast Rates per Acre

Soil Texture	Sonalan		Amiben**	
	General Weed Control	Nightshade and Groundcherry Control*	2S	0S
Coarse	1½ 2	3 3½	4 6	2 4 3 6
Medium	1½ 2½	3½ 4	4 6	2 4 3 6
Fine	2½ 3	4 4½	4 6	2 4 3 6

*Two incorporation passes are required for groundcherry or nightshade control.

**Use the higher rate where a heavy population of smartweed, velvetleaf, ragweed, wild mustard, or black nightshade are expected. Read the Amiben label for directions, cautions, and limitations prior to use.

Read the Amiben label for additional weeds controlled, directions, cautions, and limitations prior to use.

Dry Bean—Sonalan/Dual* Tank Mix or Overlay

Sonalan/Dual should be applied as a preplant incorporated tank mix or Sonalan preplant incorporated followed by a Dual overlay. The Sonalan/Dual combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Black nightshade
- Common ragweed
- Florida cupgrass
- Red rice
- Southwestern cupgrass
- Yellow nutsedge

Additional weeds partially controlled by this combination include:

- Mary nightshade
- Volunteer sorghum

Follow recommended soil preparation procedures for Sonalan. Apply the tank mix in at least ten (10) gallons of water per acre up to fourteen (14) days prior to planting. Incorporate the tank mix within two (2) days after application in the top two (2) inches of soil. When Dual is applied as an overlay to Sonalan, apply Dual after planting (behind the planter) prior to crop and weed emergence.

Broadcast Rates per Acre

Soil Texture	Sonalan		Dual DE	
	General Weed Control	Nightshade and Groundcherry Control*	Less than 3% OM	3% OM or greater
Coarse	1½ 2	3 3½	1½ 2	2
Medium	1½ 2½	3½ 4	2 2½	2 2½
Fine	2½ 3	4 4½	2 2½	2½ 3

*Two incorporation passes are required for groundcherry or nightshade control.

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Read the label for additional weeds controlled directions, cautions and limitations prior to use

Dry Bean—Sonalan/Eptam*, Sonalan/EPTC Tank Mixes

Sonalan plus Eptam or Sonalan plus EPTC should be applied as a preplant incorporated tank mix treatment. The Sonalan/Eptam or other Sonalan/EPTC tank mixes effectively control the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Nightshade (black and hairy)
- Nutsedge (purple and yellow)

Follow recommended soil preparation and application directions for Sonalan. Incorporate the tank mix immediately after application.

Broadcast Rates per Acre

Soil Texture	Sonalan		Eptam 7E or other EPTC 7E limitations
	General Weed Control	Nightshade and Groundcherry Control*	
Coarse	(pints) 1 1/2	(pints) 3 3/4	(pints) 3 1/2
Medium	1 1/2 2 1/2	3 3/4 4	3 1/2
Fine	2 1/2 3	4 1/4	3 1/2

*Two incorporation passes are required for groundcherry or nightshade control.

Read the Eptam or other EPTC labels for additional weeds controlled directions, cautions and limitations prior to use.

Dry Bean—Sonalan/Lasso* Tank Mix—

(for use only west of the Mississippi River, except in Kern County, California)

Sonalan Lasso should be applied as a preplant incorporated tank mix. The Sonalan/Lasso combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Black nightshade
- Florida pusley
- Galium
- Hairy nightshade
- Red rice
- Witchgrass
- Yellow nutsedge

Additional weeds partially controlled by this combination include:

- Common ragweed
- Florida beggarweed
- Sitatunga
- Spikey sida (beetweed)

Sonalan Lasso tank mix. Follow recommended soil preparation recommendations for Sonalan. Apply Sonalan Lasso in a minimum of fifteen (15) gallons of water per acre and incorporate thoroughly into the top two (2) inches of soil. Apply the tank mix up to seven (7) days prior to planting.

*For use only west of the Mississippi River, except in Kern County, California. **Apply Basagran as follows for optimum results. Do not treat after that weed stage indicated on Basagran label. Add oil concentrate according to label use directions.

Broadcast Rates per Acre

Soil Texture	Sonalan		Lasso or Lasso Micro-Tech
	General Weed Control	Nightshade and Groundcherry Control*	
Coarse	(pints) 1 1/2	(pints) 3 3/4	(quarts) 2 1/2
Medium	1 1/2 2 1/2	3 3/4 4	2 1/2 3
Fine	2 1/2 3	4 1/4	2 1/2 3

*Two incorporation passes are required for groundcherry or nightshade control.

Read the Lasso label for additional weeds controlled directions, cautions and limitations prior to use.

Dry Bean — Sonalan Preplant Incorporated Followed by Basagran* Postemergence Application

Sonalan should be applied preplant incorporated followed by a postemergence application of Basagran.

The Sonalan/Basagran combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Chickweed
- Johnsonweed
- Pinkish sida
- Ragweed
- Tropic croton
- Velvetleaf

Consult the Basagran label for specific weed growth stage directions to achieve best results.

Broadcast Rates per Acre

Soil Texture	Sonalan		Basagran**
	General Weed Control	Nightshade and Groundcherry Control*	
Coarse	(pints) 1 1/2	(pints) 3 3/4	(pints) 2
Medium	2 2 1/2	3 3/4 4	2
Fine	2 1/2 3	4 1/4	2

*Two incorporation passes are required for groundcherry or nightshade control.

**Apply Basagran as follows for optimum results. Do not treat after that weed stage indicated on Basagran label. Add oil concentrate according to label use directions.

Read the Basagran label for additional weeds controlled directions, cautions and limitations prior to use.

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Peanut—Sonalan Alone

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application and incorporation procedures for Sonalan.

Broadcast Rates per Acre

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

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

Peanut—Sonalan/Dual Tank Mix

Sonalan/Dual should be applied as a preplant incorporated tank mix treatment. The Sonalan/Dual combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Giantropa
- Prarie cupgrass
- Red rice
- Southwestern cupgrass
- Yellow nutsedge

Follow recommended soil preparation procedures for Sonalan. Apply the tank mix in at least ten (10) gallons of water or liquid fertilizer per acre up to fourteen (14) days prior to planting. Incorporate the tank mix within two (2) days after application in the top two (2) to three (3) inches of soil.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)	Dual DE	
		Southeast (pints)	OK, TX, NM (pints)
Coarse	1 1/2	1 1/2	1 1/2
Medium	1 1/2 2 2/3	1 1/2	1 1/2
Fine	2 3/4	1 1/2	1 1/2

Read the Dual label for additional directions, cautions and limitations prior to use.

Peanut—Sonalan/Lasso Tank Mix

Sonalan/Lasso should be applied as a preplant incorporated tank mix treatment. The Sonalan/Lasso combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Giantropa
- Red rice
- Yellow nutsedge

Follow recommended soil preparation procedures for Sonalan. Apply the tank mix in at least ten (10) gallons of water or liquid fertilizer per acre up to seven (7) days prior to planting. Incorporate the tank mix within two (2) days after application in the top two (2) to three (3) inches of soil.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)	Lasso 4EC (quarts)
	Coarse	1 1/2
Medium	1 1/2 2 2/3	3
Fine	2 3/4	3

Read the Lasso label for additional directions, cautions and limitations prior to use.

Peanut—Sonalan/Vernam Tank Mix

Sonalan/Vernam should be applied as a preplant incorporated tank mix treatment. The Sonalan/Vernam combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

- Annual ryegrass
- Purple nutsedge
- Sicklepod
- Yellow nutsedge

Apply Sonalan/Vernam in at least ten (10) gallons per acre of water or liquid fertilizer. Follow recommended soil preparation procedures for Sonalan. Sonalan/Vernam can be applied up to ten (10) days prior to planting. Incorporate the tank mix immediately following application uniformly in the top two (2) to three (3) inches of soil.

Broadcast Rates per Acre

Soil Texture	Sonalan (pints)	Vernam 7E (pints)
	Coarse	1 1/2
Medium	1 1/2 2 2/3	3
Fine	2 3/4	3

Read the Vernam label for additional directions, cautions and limitations prior to use.

Sunflower—Sonalan Alone

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application and incorporation procedures for Sonalan.

For broader spectrum weed control, Sonalan may be used in combination with Amiben and Eptam. Read the combination product label for directions, cautions and limitations prior to use.

General weed control—except groundcherry and nightshade.

Broadcast Rates per Acre

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

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

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Sonalan/Amiben should be applied as a preplant incorporated tank mix treatment or Sonalan preplant incorporated followed by an Amiben overlay treatment. The Sonalan/Amiben combination effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Black nightshade Velvetleaf
Common ragweed Wild mustard
Pennsylvania smartweed

Broadcast Rates per Acre

Soil Texture	Sonalan	Amiben	
	General Weed Control	Amiben 2S	Amiben DS
	(pints)	(quarts)	(pounds)
Coarse	1½ - 2	4 - 6*	24 - 36*
Medium	1½ - 2½	4 - 6	24 - 36
Fine	2½ - 3	4 - 6	24 - 36

*Use the higher rate where heavy populations of black nightshade, ragweed, smartweed, velvetleaf or wild mustard are expected.

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

Read the Amiben label for additional weeds controlled, directions, cautions and limitations prior to use.

Sunflower—Sonalan/Eptam® or Sonalan/EPTC Tank Mix for Use Only in North Dakota, South Dakota and Minnesota.

Sonalan/Eptam or Sonalan/EPTC should be applied as a preplant incorporated tank mix treatment.

The Sonalan/Eptam tank mix effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Annual Weeds	Perennial Weeds
Annual morningglory	Bermudagrass
Bermudagrass (seedling)	Purple nutsedge
Black nightshade	Yellow nutsedge
Corn spurry	
Fallflax	
Goosefoot nettleleaf	
Hairy nightshade	
Horsetail	
Hypochaeris (Muhlenberg)	
St. Johnswort	
Timothy (young)	
Volunteer grains (barley, oat, wheat)	

Follow recommended soil preparation directions for Sonalan. Apply the tank mix in at least ten (10) gallons of water or liquid fertilizer per acre. Apply and immediately incorporate the tank mix prior to planting in the spring.

Broadcast Rates per Acre

Soil Texture	Sonalan General Weed Control	Eptam 7E or other EPTC 7E formulations
	(pints)	(pints)
Coarse	1½ - 2	2½ - 3½
Medium	1½ - 2½	2½ - 3½
Fine	2½ - 3	2½ - 3½

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

Read the Eptam or other EPTC labels for additional weeds controlled, directions, cautions and limitations prior to use.

Dry Peas—Sonalan Alone (Do Not Use in California)

Sonalan should be applied as a preplant incorporated treatment. Follow recommended soil preparation, application and incorporation procedures for Sonalan.

General weed control—except groundcherry and nightshade:

Broadcast Rates per Acre

Soil Texture	Sonalan
	(pints)
Coarse	1½ - 2
Medium	2

Precaution: Do not exceed these Sonalan rates for weed control in dry peas or crop injury may occur. Not all varieties of peas have been tested for tolerance to Sonalan. Consult your seed contractor before applying Sonalan to determine the tolerance of a particular pea variety. Application of Sonalan to non-tolerant pea varieties may result in crop injury and reduced yields. Do not graze or forage crop grown in treated soil or cut for hay or silage.

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Sonalan Performance Guarantee

A Limited Warranty of Sonalan Weed and Grass Control

Elanco Products Company warrants that Sonalan will provide commercially acceptable control of the weeds and grasses as indicated on its current label when used according to label directions and subject to the following limitations:

1. Purchaser must notify Elanco promptly if a lack of commercially acceptable control occurs. Notice must be given within forty five (45) days after the first planting or after application of Sonalan to the treated crop, whichever occurs later.
2. An Elanco representative must be satisfied that Purchaser used Sonalan according to the label directions.
3. The Purchaser must provide an Elanco representative with an invoice or other satisfactory record which shows the price and quantity of Sonalan purchased.
4. Elanco's liability will be limited to a refund of the purchase price of the Sonalan applied to the acreage on which commercially acceptable control was not obtained.
5. Void outside the U.S.A.

Disclaimer of Warranties

The warranty printed above is the only warranty applicable to this product. All other warranties, express or implied, including but not limited to, any implied warranties of merchantability and fitness for a particular purpose, are disclaimed. This disclaimer of warranties does not apply where prohibited by operation of law.

Limitation of Damages

Elanco's liability, whether in contract, warranty, tort, negligence, strict liability or otherwise shall not exceed the return of the amount of the purchase price of the Sonalan and under no circumstances shall Elanco be liable for special, indirect or consequential damages. This limitation of damages does not apply where prohibited by operation of law.

Inherent Risks of Use

Failure to carefully follow the directions for use of Sonalan, as well as other factors such as seedling disease, cold weather, deep planting, excessive moisture, high salt concentration, saline soils or drought may result in unsatisfactory weed control or crop injury. Reduced yields may result under these conditions.

Literature revised July 10, 1988
PI 3184 AMP

Elanco Products Company • A Division of Eli Lilly and Company
Indianapolis, IN 46205, U.S.A.

SONALAN® E.C. (EPA REG. NO. 1471-122)

SONALAN/COMMAND®/SCEPTER® COMBINATION FOR WEED CONTROL
IN SOYBEANS
(Do Not Use In California)

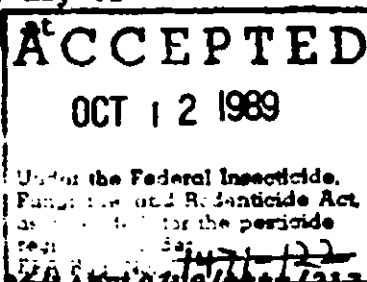
Sonalan/Command/Scepter three-way tank-mix may be applied as a preplant incorporated treatment. Scepter should not be applied as a preemergence overlay treatment or postemergence treatment following a preplant incorporated application of Sonalan in either the northern or southern use areas as defined by the Scepter label. Use of Scepter in tank-mix combination with Sonalan and Command is subject to a number of special precautions and limitations. Carefully read and understand all special precautions and limitations listed in this supplemental labeling as well as the Scepter and Command labels prior to use.

Do not apply aerially or through any type of irrigation system.

SPECIAL USE PRECAUTIONS

Scepter

1. Do not use the Sonalan/Command/Scepter tank-mix in the "Northern Use Area" as defined by the Scepter label.
2. The use of Scepter is limited to those states listed on the Scepter label.
3. Certain severe restrictions apply to corn, wheat and other rotational crops following an application of Scepter. Be sure to refer to the Scepter label for complete details of these and other restrictions.
4. A preharvest interval of 90 days is required between the last Scepter application and soybean harvest.
5. Do not graze or feed Scepter treated soybean forage, hay or straw to livestock. Only rotational crops harvested at maturity may be used for food or feed.



8. Field corn planting restrictions: For the "Southern Use Area" as defined by the Scepter label; field corn may be planted in the spring of the year following a Scepter application unless extreme drought conditions develop and less than 15 inches of rainfall or irrigation is received from the date of application through October of the year of application. For eastern Oklahoma, Arkansas, the bootheel of Missouri, Tennessee, North Carolina, and states south: field corn may be planted in the spring of the year following a Scepter application unless extreme drought conditions develop and less than 15 inches of rainfall or irrigation is received within 6 months following the date of application.
9. Do not plant cotton or rotational crops other than those listed above within 18 months following an application of Scepter. -
10. Crops other than soybeans may be injured by spray, drift or other indirect contact with Scepter.

Command

Off-site movement of spray drift or vapors of Command herbicide can cause foliar whitening or yellowing of some plants. Prior to making application, read and strictly follow all precautions and application instructions on the Command label.

Additional Weeds Controlled by Tank-Mix

The Sonalan/Command/Scepter tank-mix effectively controls the weeds listed for Sonalan alone for general weed control plus these additional weeds:

Common cocklebur	Pigweed (Palmer amaranth)
Common ragweed	Prickly sida (Teaweed)
Eastern Black Nightshade	Velvetleaf (Buttonweed)
Jimsonweed	Venice mallow
Pennsylvania smartweed	

Additional weeds partially controlled by this combination include:

Common sunflower
Morninglory, annual

Control of these weeds may be erratic, ranging from poor to excellent depending upon soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Control may be improved by timely cultivation.

Application Directions

Apply Sonalan/Command/Scepter tank-mix as a preplant incorporated treatment up to 3 weeks before planting. Follow soil preparation, mixing and application procedures described in the Sonalan label. Apply in a finished spray volume of 10 to 40 gallons of water per acre. **NOTE:** The use of an agriculturally approved drift reducing additive is required for spray volumes of less than 15 gallons per acre. Use minimum nozzle pressure and boom height necessary to provide a uniform spray pattern. Coarse sprays are less likely to drift from target area than fine sprays.

Incorporation

On moist soil, apply Sonalan/Command/Scepter and incorporate immediately to a maximum depth of 3 inches. On dry soils, incorporation should be completed within 3 hours. Avoid application to wet soils which increases the potential for off-site movement of Command herbicide vapors and may result in loss of herbicidal activity and unsatisfactory weed control.

Broadcast Application Rates

<u>Soil Texture</u>	<u>Sonalan E.C. (pints)</u>	<u>Command 4 E.C. (pints)</u>	<u>Scepter E.C. (pints)</u>
Coarse	1 1/4 - 2	3/4	1/3
Medium	1 3/4 - 2 1/2	1 1/8	1/3
Fine	2 1/4 - 3	1 1/2	1/3

General Precautions:

Read the Sonalan, Command and Scepter labels carefully for additional directions, cautions and limitations prior to use.

SONALAN® E.C. (ethalfluralin, Elanco)
 Command® (clomazone, FMC)
 Scepter® (imazaquin, American Cyanamid)

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SONALAN E.C. (EPA Reg. No. 1471-122)
SONALAN Dry Flowable (EPA Reg. No. 1471-152)

The Special Precaution prohibiting the use of Sonalan in the State of Montana is removed.

Refer to Sonalan product labels for additional directions, precautions and limitations before applying.

SONALAN(R) - (ethalfuralin, Elanco)

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