

ACCEPTED
FEB 9 1988

1471-122

ELANCO ID 5036
Herbicide
Sonalan
E.C.

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 36.1%
Inert ingredients 63.9%
Contains 3 pounds active ingredient per gallon.
(Sonalan®—ethalfuralin, Elanco)

Keep Out of Reach of Children.

WARNING

See additional precautionary statements inside booklet.
See directions for use inside booklet.

Net Contents 2½ Gallons

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

WU 1682 AMX
Elanco Products Company
A Division of Eli Lilly and Company
Indianapolis, IN 46285, U.S.A.

Avoid Freezing—Store Above 40°F.

Directions for Use

See literature for Complete Directions for Use. Read all directions carefully before applying. It is a violation of Federal Law to use this product in a manner inconsistent with the label.

Precautionary Statements

**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 foodstuffs 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.

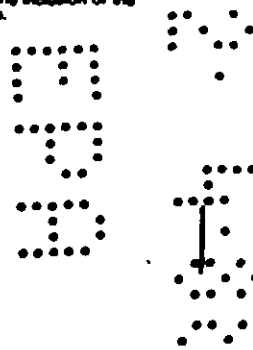
STORAGE AND DISPOSAL

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: Do not contaminate water, food or feed by storage or disposal. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container 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.

The manufacturer makes no warranties, express or implied, concerning the product or its use, which extend beyond the description on the label or in literature published by Elanco Products Company, and all statements made concerning this product apply only when used as directed. Elanco Products Company expressly disclaims all warranties, express or implied, in reason of any use of the product in combination or sequential use with any other product not specifically recommended in writing by Elanco Products Company. If used in a combination or sequential use recommended by Elanco Products Company, the liability of Elanco shall in no manner extend to any damage, loss or injury not directly caused by the inclusion of the Elanco product in such combination or sequential use.



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. 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 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 fertilizers 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 ("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-oiling 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 (Witco Chemicals Co., Chicago, IL)
- * 2 Compat (Farm Chemicals, Inc., Aberdeen, NC)
- 3 Unile (Hopkins Ag Chemical, Madison, WI)
- * 4 T-Mulz 734-2 (Thompson-Hayward Chemical Co., Kansas City, MO)
- 5 Rigo Compatibility Agent (Rigo Company, Buckner, KY)
- * 6 Amoco Spray Mate™ (Amoco Oil Co., Chicago, IL)
- 7 Kim 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.

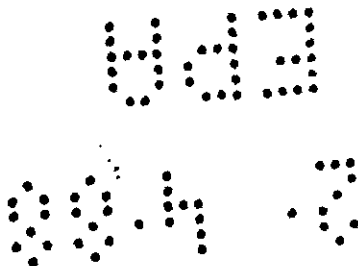
Testing for Tank Mix Compatibility in Liquid Fertilizers:

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 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 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, 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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Sunflower—Sonalan/Amiben* Tank Mix or Overlay

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
- Common ragweed
- Pennsylvania smartweed
- Velvetleaf
- Wild mustard

Broadcast Rates per Acre

Soil Texture	Sonalan		Amiben	
	General Weed Control		Amiben 2S	Amiben DS
	(pints)		(quarts)	(pounds)
Coarse	1½ - 2		4 - 6*	2.4 - 3.6*
Medium	1½ - 2½		4 - 6	2.4 - 3.6
Fine	2½ - 3		4 - 6	2.4 - 3.6

*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 | |
| Fiddleneck | |
| Goosefoot nettleleaf | |
| Hairy nightshade | |
| Rescuegrass | |
| Ryegrass (Italian) | |
| Shepherdspurse | |
| Tumble pigweed | |
| 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	Eptam 7E or other EPTC 7E formulations
	General Weed Control	
	(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

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

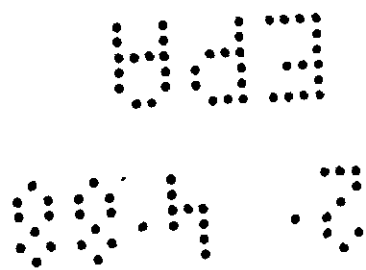
General weed control—except groundcherry and nightshade.

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.

(Do not use in California.)



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