

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

4/11/93

264-529

3/15

NOV 3 1993

Ms. Karen S. Shearer
 Rhone-Poulenc
 P.O. Box 12014
 2 T.W. Alexander Drive
 Research Triangle Park, N.C. 27709

Dear Ms. Shearer:

Subject: Label Amendment (Exposure Reduction Program)
 No-Sol 400 Broadleaf Herbicide
 EPA Registration Number 264 529
 Your Submission dated May 7, 1993

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy of the accepted label is enclosed for your records. Please submit three (3) copies of final printed labeling.

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
 Registration Division (7505C)

Enclosure

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CONCURRENCES

SYMBOL	7505C							
SURNAME	Robbins							
DATE	11/3/93							

NO-SOL 400 Broadleaf Herbicide

Solventless ester formulation for agricultural weed control, conifer release, site preparation, turf and non-cropland weed control.

ACTIVE INGREDIENT:

*2,4-Dichlorophenoxyacetic acid, isooctyl (2-ethylhexyl) ester.....62.6%

INERT INGREDIENTS:37.4%

*2,4-Dichlorophenoxyacetic acid equivalent 41.5% by weight or 3.8 pounds per gallon.

*Isomer specific by AOAC method No. 6.D01-5

E.P.A. Reg. No. 264-529

E.P.A. Est. No. 264-M0-01

KEEP OUT OF REACH OF CHILDREN CAUTION

For **MEDICAL** and **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577
For **PRODUCT USE** Information Call 1-800-334-9745

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

IF ON SKIN: Wash skin with plenty of soap and water, if available, while removing contaminated clothing and shoes. Wash clothing separately before reuse. Get medical attention.

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Get medical attention if irritation persists.

IF INHALED: Remove victim to fresh air. If not breathing, administer artificial respiration. Administer oxygen if necessary. Get medical attention.

NOTE TO PHYSICIAN

No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

PRECAUTIONARY STATEMENTS

CAUTION

HAZARD TO HUMANS AND DOMESTIC ANIMALS

Harmful if swallowed, absorbed through skin or inhaled. Do not get in eyes, on skin or clothing. Avoid breathing vapors or spray mist. When mixing, loading, or applying this product or repairing or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical-resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. For aerial applicators in enclosed cockpits and applicators applying this product from a tractor that has a completely enclosed cab, eye protection is not required. When applying from a tractor with an enclosed cab or airplane with enclosed cockpit, it is recommended that gloves worn during handling the concentrate be removed prior to entering an enclosed cab or cockpit.

Wash hands, face and arms with soap and water as soon as possible after mixing, loading, or applying this product. Wash hands, face and arms with soap and water before eating, smoking or drinking. Wash hands and arms before using toilet. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower.

NOTE: (1) For containers over 1 gallon, but less than 5 gallons, persons engaged in pouring of this product must also wear coveralls or chemical-resistant apron. (2) For containers of 5 gallons or more, a mechanical transfer system (p-pipe and pump) must be used for transferring the contents of the container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. 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 when disposing of equipment washwaters.

Do not apply when weather conditions favor drift from treated areas. Do not use the same spray equipment for other purposes unless thoroughly cleaned. Do not contaminate water used for irrigation or domestic purposes.

ACCEPTED
with COMMENTS
EPA Letter to Registrants
NOV - 2 1982
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
NOV - 2
264-529

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MIXING AND LOADING: Most cases of ground water contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of ground water supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent ground water contamination.

Do not apply NO-SOL 400 Broadleaf Herbicide directly to, or permit spray mist to drift onto cotton, okra, grapes, tomatoes, fruit trees, vegetables, flowers or other desirable crop or ornamental plants which are susceptible to 2,4-D herbicide. Do not apply near susceptible plants since very small quantities of the 2,4-D will cause severe injury during the growing or dormant periods. Crops contacted by NO-SOL 400 Broadleaf Herbicide sprays or spray drift may be killed or suffer significant stand loss with extensive quality and yield reduction.

Do not apply when a temperature air inversion exists. Such a condition is characterized by little or no air movement and an increase in air temperature with an increase in height. In humid regions a fog or mist may form. An inversion may be detected by producing a smoke column and checking for a layering effect. If questions exist pertaining to the existence of an inversion, consult with local weather services before making an application.

Use coarse sprays to minimize drift. Do not apply with hollow cone type insecticide or other nozzles that produce fine spray droplets.

Drift from aerial or ground application may be reduced by: (1) applying as near to the target as possible in order to obtain coverage; (2) by increasing the volume of spray mix per acre; (3) by decreasing the pounds of pressure at the nozzle tips; (4) by using nozzles which produce a coarse spray pattern; (5) by not applying when wind is blowing toward susceptible valuable plants.

At high air or ground surface temperatures, vapors from this product may injure susceptible plants.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.

STORAGE AND DISPOSAL

STORAGE

Do not contaminate water, food or feed by storage or disposal. Store in original container in a dry secured storage area. Keep container tightly closed when not in use.

PESTICIDE DISPOSAL

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate ground water. 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 by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

NO-SOL 400 Broadleaf Herbicide contains the isooctyl (2-ethylhexyl) ester of 2,4-D, the original and one of the best low volatile esters. In cropland, NO-SOL 400 is more effective than amines for controlling hard-to-kill weeds such as bindweed, thistles, smartweeds, wild garlic, curled dock, tansy ragwort and wild onions.

INJURY TO CROPS FROM THIS HERBICIDE MAY OCCUR. IF YOU ARE NOT PREPARED TO ACCEPT SOME DEGREE OF CROP INJURY DO NOT USE THIS PRODUCT.

Crop varieties vary in response to 2,4-D and some are easily injured. Apply NO-SOL 400 only to varieties known to be tolerant to 2,4-D. If you are uncertain concerning tolerant varieties or local use situations that may affect crop tolerance to 2,4-D consult your seed company, state Agricultural Extension Service or qualified crop consultant for advice.

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GENERAL CAUTIONS AND RESTRICTIONS

Do not apply NO-SOL 400 Broadleaf Herbicide through any type of irrigation system.

Do not use in or near a greenhouse.

MIXING INSTRUCTIONS

Add one-half the required amount of water to the spray tank, then add the NO-SOL 400 with agitation, and finally, the balance of the water with continued agitation. This material forms an emulsion in water, not a solution. This tends to separate on standing. Provide agitation to prevent such separation and insure uniform spray mixtures.

COMPATIBILITY

NO-SOL 400 is to be tank mixed with fertilizers or with other pesticides, compatibility should be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1 qt) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5-15 minutes after mixing. Read and follow the label of each tank-mix product used for precautionary statements, directions for use, geographic and other restrictions.

COMBINATION WITH LIQUID NITROGEN FERTILIZER

Use 1/2 to 3/4 pint NO-SOL 400 per acre for weeding and feeding corn, cereal grains, grasses for seed production or grass pastures as directed on this label. Use the fertilizer at rates recommended by supplier or Extension Service Specialist. Fill the spray tank about half full with the liquid fertilizer, then add the NO-SOL 400 with vigorous agitation, and complete filling the tank with fertilizer. Apply immediately and continue agitation in the spray tank during application. Application during very cold weather (near freezing) is not advisable. Do not allow mixture to stand overnight. Incompatibility may be encountered with some fertilizer brands or under some environmental conditions. If in doubt, test a small sample in the dilution ratio planned for application.

NOTE: Fertilizers can increase foliage contact burn of herbicides. Reducing the fertilizer rate and concentration will reduce the hazard of leaf burn.

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GENERAL WEED LIST

ANNUAL AND BIENNIAL WEEDS

annual yellow sweetclover
beggarticks*
bull thistle
coffeeweed
common evening primrose
common broomweed*
common burdock
common cocklebur
common lambsquarters
croton (Texas or woolly)
hairy galinsoga
jimsonweed
knotweed*
mallow* (venice, dwarf, little)
marshelder
morningglory (common, ivy, woolly)
mustards (except blue mustard)

pepperweeds (except perennial)
pigweeds** (Amaranthus spp.)
prickly* lettuce
ragweed (common giant)
rough fleabane
Russian thistle*
salsify (western or common)
smartweeds* (annual species)
sowthistle (annual or spiny)
sunflower
velvetleaf
vervains*
vetches
wild carrot*
wild lettuce
wild parsnips
wild radish

PERENNIAL WEEDS

alfalfa*
bindweed* (hedge, field & European)
blue lettuce
Canada thistle*
catnip
chicory
dandelion
docks*
dogbanes*
goldenrod*
ground ivy*
hawkweed* (orange)

healall
hoary cress*
Jerusalem - artichoke
many-flowered aster*
nettles* (including stinging)
plantains
sowthistle (perennial)
tansy ragwort*
vervains*
western ironweed*
wild garlic*
wild onion*

*These species may require repeat applications and/or use of the higher rate recommended on this product label even under ideal conditions for application.

**Control of pigweeds in the High Plains area of Texas and Oklahoma may not be satisfactory with this product.

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SPECIFIC USE DIRECTIONS

CEREAL GRAINS

WEEDS IN CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
WHEAT, BARLEY and RYE (not underseeded with legumes) Postemergence Annual and biennial weeds Perennial broadleaf weeds	1/2 to 2 pints* 1 to 2 pints*	Apply after grain is fully tillered (usually about 4 to 8 inches high) but not forming joints in the stem. Do not spray grain in boot to dough stage.
Wild onion or garlic	1 1/2 to 2 pints*	Apply 1 1/2 pints when grain is fully tillered and wild garlic or onion plants are small. Apply 2 pints after harvest in the crop stubble. For control of new fall growth of wild onion or garlic refer to FALLOWLAND use directions.
PREHARVEST	1 to 2 pints*	Apply when grains are in the hard dough stage to suppress large weeds that may interfere with harvest. Best results will be obtained when soil moisture is sufficient to induce succulent weed growth.

* Use the lower rate if small annual and biennial weeds are the major problem. Use the higher rate if perennial weeds or annual and biennial weeds are present which are in the hard-to-kill categories as determined by local experience. The higher rates increase the risk of grain injury and should be used only where the weed control problem justifies the risk of grain damage. Do not apply to grain in the seedling stage.

RESTRICTIONS AND LIMITATIONS FOR USE ON CEREAL GRAINS

For aerial application on grain, apply NO-SOL 400 in 2 or more gallons of water per acre.

For ground application, a minimum of 10 to 15 gallons of water per acre is recommended for proper spray coverage.

Do not mix with oil for crop uses.

Do not permit dairy animals or meat animals being finished for slaughter to forage treated grain fields within 2 weeks after treatment.

Do not feed treated straw to livestock if a preharvest treatment as described above is applied.

TANK MIXTURES FOR CEREAL GRAINS

NO-SOL 400 and BUCTRIL® Tank Mixture on Wheat, Barley and Rye

WEEDS IN CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Cereal Areas except Washington, Oregon, Idaho, Colorado, Wyoming and Montana	1/2 to 1 pint plus 1 to 1 1/2 pints BUCTRIL®	BUCTRIL® Broadleaf Herbicide will control some annual weeds that are resistant to NO-SOL 400 and may be tank mixed with NO-SOL 400 for broader spectrum weed control on cereal grains.
Washington, Oregon, Idaho, Colorado, Wyoming and Montana	1/2 to 1 pint plus 1 1/2 pints BUCTRIL®	TO PREPARE THE SPRAY: First mix NO-SOL 400 in water then add the BUCTRIL®. Use the higher rates for larger weeds or where weed growth is slow due to dry or cold weather. Apply before weeds are 6 inches high. Use 10 to 20 gallons total spray volume per acre with ground equipment or use 5 to 10 gallons total spray volume with air application. Use higher volume on larger weeds.

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FIELD CORN

WEEDS	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Preplant	1 to 2 pints ✓	To control emerged broadleaf weed seedlings or existing cover crops prior to planting corn. Apply 7 to 14 days before planting. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth. Use high rate for control of less susceptible weeds or cover crops such as alfalfa.
Preemergence	2 to 4 pints ✓	To control broadleaf weeds and suppress annual grasses, apply 3 to 5 days after planting, but before corn emerges. Use high rate on soil high in organic matter. Do not use on light, sandy soil, or where soil moisture is inadequate for normal weed growth.
Postemergence Annual broadleaf weeds	1/2 pint ✓	Avoid spraying just after corn leaves unfold, as injury may occur. Apply when weeds are small and corn is less than 8 inches tall. If corn is more than 8 inches tall must be sprayed, use drop pipes.
Perennial broadleaf weeds	3/4 pint ✓	Spray when weeds are in the bud to bloom stage. If corn is more than 8 inches tall, use drop pipes to keep spray off corn leaves. Do not spray when corn is in tassel to dough stage. 2,4-D may make corn brittle. Winds or cultivation may cause stalk breakage while brittle.
Preharvest	1 to 2 pints ✓	After the hard dough (denting) stage, to suppress weeds that interfere with harvest such as bindweed, cocklebur, dogbane, jimsonweed, ragweed, sunflower and velvetleaf, and to decrease production of weed seeds, spray with air or ground equipment. The high rate will be needed for tough weeds under stress.

POPCORN

WEEDS IN CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Preharvest	1 to 2 pints	After the dent stage to suppress weeds that interfere with harvest, such as bindweed, cocklebur, dogbane, jimsonweed, ragweed, sunflower and velvetleaf, and to decrease production of weed seeds, spray with air or ground equipment. The high rate will be needed for weeds under stress. DO NOT USE IN CALIFORNIA.

RESTRICTIONS AND LIMITATIONS FOR USE ON FIELD CORN AND POPCORN

Do not forage or feed corn fodder for 7 days following application. ✓

A minimum application volume of 3 to 5 gallons per acre by air or 10 gallons per acre is recommended. ✓

Note: Hybrids vary in response to 2,4-D and some are easily injured. Contact seed company or your Agricultural Experiment Station or Extensional weed specialists for this information. ✓

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SOYBEANS (Preplant Only)

WEEDS	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Postemergence	3/4 to 1 pint ✓	Apply not less than 7 days prior to planting soybeans, when weeds are small and actively growing. Use the higher rate on larger weeds and when perennials are present. Some weeds may require repeat treatment for adequate control (see GENERAL WEED LIST and below).
	• (>1 to 2 pints	Apply not less than 30 days prior to planting soybeans, when weeds are actively growing. Some weeds may require repeat treatment for adequate control (see GENERAL WEED LIST and below).
		<p>In addition to those weeds found on the GENERAL WEED LIST, NO-SOL 400 will suppress or control the following broadleaf weeds frequently encountered in reduced tillage soybean production systems: bullnettle, smallflowered bittercress, Carolina geranium, smallflowered buttercup, common and rough cinquefoil, red clover*, horseweed or marestalk, mousetail, wild mustard, field pennycress, cutleaf evening primrose, common purslane, speedwell, and Virginia copperleaf.</p> <p>* These weeds are only partially controlled.</p> <p>Apply no more than 2.0 pints of NO-SOL 400 in one season prior to planting soybeans. After applying, plant soybean seed as deep as practical or at least 1 1/2 to 2 inches deep. Adjust the planter press wheel, if necessary, to ensure that planted seed is completely covered.</p> <p>If desired, NO-SOL 400 may be applied pre-plant to soybeans in tank mixtures with other herbicides such as Poast, Poast Plus, Roundup, Roundup D-Pak, Honcho, Gramoxone Extra, Prowl, Pursuit Plus, Scepter, Scepter 70 DG, Squadron and others that are registered for pre-plant soybean use.</p> <p>NOTE: Unacceptable injury to soybeans planted in fields previously treated with NO-SOL 400 may occur. Whether or not soybean injury occurs and the extent of the injury will depend on weather and agronomic factors such as the amount of weed vegetation and previous crop residue present that may be in effect between the time of NO-SOL 400 application and the emergence of the soybean plant.</p>

RESTRICTIONS AND LIMITATIONS FOR USE IN SOYBEANS (PRE-PLANT)

- Do not apply NO-SOL 400 when weather conditions such as temperature, air inversions, or wind favor drift from treated areas to susceptible plants. ✓
- Apply no more than 2.0 pints of NO-SOL 400 per acre in one season prior to planting soybeans. ✓
- Do not apply NO-SOL 400 prior to planting soybeans if you are not prepared to accept the results of soybean injury including possible loss of stand and yield. ✓
- Do not replant fields treated with NO-SOL 400 in the same growing season with crops other than those labeled for 2,4-D pre-plant use. ✓
- Do not mow or cultivate weeds prior to treating with NO-SOL 400 as poor control may result. ✓
- Do not cut for feed treated hay, forage, or fodder or graze treated soybeans to livestock. ✓
- Only one application of NO-SOL 400 may be made prior to planting soybeans per growing season. ✓
- Do not cut for feed or graze treated cover crops to livestock. ✓

GRAIN SORGHUM (milo)

WEEDS IN CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Annual broadleaf weeds	1/2 pint ✓	Treat when sorghum is 5 to 15 inches tall (to top of canopy). If sorghum is taller than 8 inches to top of canopy, use drop nozzles to keep spray off crop foliage. Do not treat during the boot, flowering or early dough stages.
Perennial broadleaf weeds	3/4 - 1 pint ✓	

RESTRICTIONS AND LIMITATIONS FOR USE ON SORGHUM

Do not forage or feed fodder for 7 days following application. ✓

A minimum application volume of 5 gallons per acre by air or 10 gallons per acre by ground is recommended. ✓

GRASSES FOR SEED PRODUCTION

CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Annual broadleaf weeds	1 to 1 1/2 pints ✓	Apply to established stands in spring from tiller to early boot stage. Do not spray in boot stage. New spring seedlings may be treated with the lower rate after grass seedlings have at least 5 leaves. Perennial weed regrowth may be treated in the fall. DO NOT USE IN CALIFORNIA.
Perennial broadleaf weeds	2 to 3 pints ✓	

SUGARCANE

CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Preemergence	2 pints	Apply before canes appear for control of emerged broadleaf weeds. Apply after cane emerges and through layby. DO NOT USE IN CALIFORNIA.
Postemergence	2 to 4 pints ✓	

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WEEDS AND BRUSH IN PASTURES, RANGELAND, AND FALLOWLAND

CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Established grasses and rangeland Annual broadleaf weeds Perennial and biennial broadleaf weeds	2 pints ✓ 3 to 4 pints ✓	Apply when weeds are small and actively growing and prior to bud stage. Do not apply to newly seeded areas until grass is well established. Do not apply when grass is in the boot to milk stage if grass seed production is desired. Bentgrass and legumes may be injured by this treatment. ✓
Sand sage, sagebrush, shinnery oak and other 2,4-D susceptible woody species	2 to 3 quarts ✓	Apply aurally to brush in 2 or more gallons of water per acre. One gallon of fuel oil may be included in the mixture. Consult state or local brush control specialists for more effective rate, volume and timing of spray applications. ✓
FALLOWLAND AND CROP STUBBLE Annual broadleaf weeds Biennial broadleaf weeds Perennial broadleaf weeds Wild garlic and onion in crop stubble	1 to 2 pints ✓ 2 to 4 pints 2 to 6 pints 4 to 6 pints ✓	Use the lower rate when weeds are small (2 to 3 inches tall) and growing actively. Use the higher rate on older and drought-stressed plants. ✓ Spray while musk thistles or other biennial species are in the seedling to rosette stage, and before flower stalks are initiated. The lower rate can be used in spring during rosette stage. In fall or after flower stalks have developed, use the highest rate. ✓ Spray weeds in bud to bloom stage, or in good vegetative growth. Do not disturb treated area for at least 2 weeks after treatment, or until weed tops are dead. ✓ Apply to new regrowth of wild onion or garlic which occurs in the fall following harvest of cereal grains, soybeans, corn or grain sorghum. ✓

RESTRICTIONS AND LIMITATIONS FOR USE ON PASTURES, RANGELAND, AND FALLOW LAND:

For ground application, a minimum of 10 to 15 gallons of water per acre is recommended for proper spray coverage. ✓

For aerial application, use a minimum of 2 gallons of water per acre. ✓

Do not graze animals on treated areas within 7 days after treatment.

Do not plant treated fallow land until 3 months after treatment or until chemical has disappeared from soil.

Do not cut grass for hay within 30 days after application. ✓

Do not permit dairy animals or meat animals being finished for slaughter to forage treated fields within 3 days of slaughter. ✓

WEEDS IN ORNAMENTAL TURF AREAS

Golf Courses, Cemeteries, Parks, and other Turf Areas

WEEDS IN CROP	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 pints ✓	Apply any time weeds are growing vigorously. Cool-season weeds such as common chickweed, henbit and pepperweeds should be sprayed when they appear in fall or early spring. Warm-season weeds such knotweed respond best when they are small. If there is additional germination, repeat treatment. Also controls cocklebur, galinsoga, lambquarters, pigweed, ragweed and sunflower.
Perennial and biennial broadleaf weeds	3 to 4 pints ✓	To control dandelion, plantain and most other common broadleaf weeds in turf, apply in spring or fall when these weeds are growing actively. Treat wild garlic or onion in three successive seasons (Example: spring, fall, spring). Do not apply to newly seeded areas until sod is formed and grass has been cut at least twice. Do not use NO-SOL 400 for susceptible southern grasses such St. Augustine. Bentgrass and clover may be injured by this treatment. Also controls bindweed, chicory, docks, ground ivy, hawkweed, thistles (Canada, musk, bull and Scotch), smartweed, tansy ragwort, wild onion and wild garlic.

RESTRICTIONS AND LIMITATIONS FOR USE IN TURF AREAS

Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment areas until spray has dried or dust has settled.

The maximum number of broadcast applications per treatment site is 2 per year. This does not exclude spot treatment.

For ground application in turf areas, use enough water for good coverage (minimum 10 gallons per acre).

Do not graze animals on treated areas within 7 days after treatment.

If needed, irrigate ornamental turf thoroughly before application. Spray when air is calm to avoid drift. Avoid treatment when temperatures exceed 85° F or are expected to do so within 24 hours after application.

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12 of 15

WEEDS AND BRUSH IN NON-CROP AREAS

Fencerows, Roadsides, Drainage Ditchbanks, Vacant Lots, Airfields, Railroad, Highway And Utility Rights-Of-Way, And Other Non-Crop Areas.

WEEDS	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 to 4 pints ✓	Apply when most weeds are still young and growing vigorously.
Perennial and biennial broadleaf weeds	3 to 6 pints	Apply when weeds are actively growing and near the bud stage, but before flowering. For best results on tansy ragwort and musk thistle, treat in rosette stage, before bolting. A second application is usually needed for best results on thistle, nettle and bindweed. Treat wild onion or garlic in early spring and in fall when they are young and growing actively.
Cattails and tules	4 pints ✓	Mix 2 quarts NO-SOL 400 in 2 quarts kerosene or diesel oil then add this mixture to 100 gallons of water. Apply 300 to 500 gallons of spray per acre, depending on the stand. The addition of a wetting agent is suggested.
Woody plants	6 to 8 pints ✓	Apply in 30 to 100 gallons of spray per acre, preferably through low-volume equipment such as DIRECTA-SPRA™, WOBBLER™, MINI-WOBBLER™ or SPIROMETER™. Treat when 2,4-D susceptible species are in full leaf and growing actively. Repeated applications, oil or wetting agent, and/or high volume spraying (300 to 500 gallons of spray per acre) may be needed for acceptable control of some species or if brush growth is dense.

RESTRICTIONS AND LIMITATIONS FOR USE IN NON-CROP AREAS

For aerial application to solid stands of susceptible brush, use 2 to 4 quarts in 3 to 12 gallons volume per acre. Two to 4 quarts of fuel oil may be included in this mixture.

Applications will be less effective when conditions such as deficient soil moisture reduce brush growth.

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TANK MIXTURES FOR NON-CROP AREAS

NO-SOL 400 And GARLON¹ 4 Or GARLON 3A Tank Mixtures For Non-Crop Areas

WEEDS	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Broadleaf weed control	2 to 4 pints NO-SOL 400 plus 2 to 6 pints Garlon-4 or 3 to 8 pints Garlon-3A	For wider spectrum control of broadleaf weeds and woody plants: Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when broadleaf weeds are actively growing.
Woody plant control Broadcast foliar spray	1 to 2 gallons NO-SOL 400 plus 1 1/2 to 3 quarts Garlon-4 or 2 to 4 quarts Garlon-3A	Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when woody plants are actively growing.
Woody plant control High volume leaf-stem treatment with ground equipment	1 to 8 quarts NO-SOL 400 plus 1 1/2 to 12 pints Garlon-4 or 2 to 16 pints GARLON-3A	Mix 1 to 2 quarts NO-SOL 400 plus 1 1/2 to 3 pints Garlon-4 or 2 to 4 pints Garlon-3A in enough water to make 100 gallons of spray. Apply at a volume of 100 to 400 gallons of total spray per acre depending on size and density of woody plants. Thoroughly wet all leaves, stems and root collars of plants to be controlled.
Woody plant control Aerial application (helicopter only)	1 to 2 gallons NO-SOL 400 plus 3 to 4 quarts Garlon-4 or 4 to 6 quarts Garlon-3A	Apply in a total spray volume of 10 to 30 gallons per acre using drift control equipment such as the MICRO-FOIL [®] boom or an effective drift control agent. Use the higher rates and volumes when plants are dense or under drought conditions.

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NO-SOL 400 And BANVEL² Herbicide Tank Mixtures For Non-Crop Areas

WEEDS	AMOUNT OF NO-SOL 400 PER ACRE	DIRECTIONS
Annual broadleaf weeds	2 to 4 pints NO-SOL 400 plus 1/2 to 1 1/2 pints Banvel	For wider spectrum control of broadleaf weeds and woody plants: Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when broadleaf weeds are actively growing. Use the higher rates when treating dense or tall vegetative growth.
Perennial and biennial broadleaf weeds	3 to 6 pints NO-SOL 400 plus 1/2 to 6 pints Banvel	Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre. Apply when broadleaf weeds are actively growing but prior to flowering. Use the lower rates for biennials less than 3 inches rosette diameter. Use the higher rates for perennial weeds or for biennial weeds past the 3-inch rosette stage.
Woody plant control Broadcast, high volume, stem foliage or aerial application	1 to 2 gallons NO-SOL 400 plus 2 to 8 quarts Banvel	Apply as a broadcast spray in enough water to deliver 20 to 100 gallons total spray per acre or apply as a high volume stem foliage spray in enough volume to thoroughly wet leaves, stems and root collars (100 to 400 gallons per acre) or apply aerially in enough water to deliver total spray volume of 10 to 30 gallons per acre using drift control agent. Use the higher rates and volumes when plants are dense or under drought conditions.

SMALL AREA APPLICATIONS FOR NON-CROP USE

For control of broadleaf weeds in small non-crop areas with hand held or back-pack sprayers mix 4 fluid ounces NO-SOL 400 per gallon of water. Thoroughly wet all weed foliage. Maintain agitation of mixture to prevent separation.

FOREST MANAGEMENT

CONIFER RELEASE

To control alder, apply 1 1/2 to 2 quarts NO-SOL 400 Broadleaf Herbicide in 9 1/2 to 15 gallons water per acre as a foliage spray. Treat when 3/4 of the brush foliage has attained full size leaves and before new conifer growth reaches 2" in length. This is usually between early May and mid-June. Adjust treatment date depending on stage of growth of conifers and brush species. This may cause leader deformation on exposed firs, but they should overcome this during the second year after spraying.

To control tanoak, madrone, ceanothus, canyon live oak, and manzanita, and to release Douglas fir, hemlock, Sitka spruce or grand fir, apply 3 quarts NO-SOL 400 plus 3 quarts fuel oil in 8 1/2 to 15 gallons water per acre before new growth on Douglas fir is 2" long. To control manzanita and ceanothus in ponderosa pine, apply 3 quarts NO-SOL 400 before pine growth begins in spring.

To control hazel brush in the Lake states, apply 2 quarts NO-SOL 400 in 6 to 25 gallons of water per acre when new shoot growth of hazel is complete (usually mid-July).

In northern areas, if possible conifer injury can be tolerated, 1 1/2 to 3 quarts of NO-SOL 400 applied aerially in 8 to 25 gallons of water per acre after conifers such as jack pine, red pine, black spruce, and white spruce have hardened off (usually mid-July) will provide control of competing hardwoods including alder, aspen, birch, hazel, and willow.

SITE PREPARATION

Budbreak Spray: To control alder and other susceptible species before planting forest seedlings, apply 2 to 4 quarts NO-SOL 400 in 9 to 15 gallons fuel oil per acre after alder buds break, but before foliage is 1/4 full size.

Foliage Spray: To control alder before planting forest tree seedlings, apply 2 quarts NO-SOL 400 plus 2 quarts fuel oil in 9 to 15 of gallons water per acre after most alder leaves are full size.

Consult your regional or extension forester or state herbicide specialist for recommendations to fit local conditions.

15 of 15

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants that this product conforms to the chemical description on the label; that this product is reasonably fit for the purposes set forth in the directions for use when it is used in accordance with such directions; and that the directions, warnings and other statements on this label are based upon responsible experts' evaluation of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants, and of residues on food crops and upon reports of field experience. Tests have not been made on all varieties or in all states or under all conditions. THE MANUFACTURER NEITHER MAKES NOR INTENDS, NOR DOES IT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE, ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, AND IT EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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NO-SOL 400 Broadleaf Herbicide (PENDING) Submitted 2/26/93.