

71512-16

11/01/2007

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<p>U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505C) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460</p> <p>NOTICE OF PESTICIDE: <u> X </u> Registration <u> </u> Reregistration</p> <p>(under FIFRA, as amended)</p>	<p>EPA Reg. Number:</p> <p>71512-16</p>	<p>Date of Issuance:</p> <p>NOV - 1 2007</p>
	<p>Term of Issuance:</p> <p>Conditional</p> <p>Name of Pesticide Product:</p> <p>Nicosulfuron 4SC Herbicide</p>	
<p>Name and Address of Registrant (include ZIP Code):</p> <p>ISK Biosciences Corporation 7470 Auburn Road, Suite A Concord, OH 44077</p>		
<p>Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.</p>		
<p>On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.</p> <p>Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.</p> <p>This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A) provided that you:</p> <ol style="list-style-type: none">1. You will submit the following data/information the results of the one-year storage stability (830.6317) and corrosion characteristics (830.6320) studies once they are available.2. Submit and/or cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit such data.		
<p>Signature of Approving Official:</p> <p><i>James A. Tompkins for</i></p> <p>James A. Tompkins, Product Manager (25) Herbicide Branch, Registration Division (7505P)</p>	<p>Date:</p> <p>11/1/07</p>	

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3. Make the labeling changes listed below before you release the product for shipment:

a. Add the phrase "EPA Registration No. 71512-16"

b. In your Precautionary Statements, add the statement "Causes moderate eye irritation", after the statement "Harmful if absorbed through skin or inhaled."

c. Place a User Safety Recommendations Box, containing the statements: "USERS SHOULD: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.", immediately before your Environmental Hazards section. Also, remove the similar statements from the Precautionary Statements.

d. In your Storage and Disposal section, revise "Storage" to read "**Pesticide** Storage" and "Product Disposal" to read "**Pesticide** Disposal".

b. Revise your Limitation of Warranty and Limitations of Damages" as per the enclosed guidance entitled "Guidance on Warranty Statements" dated October 17, 2006

4. Submit one (1) copy of your final printed label before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Enclosure



Nicosulfuron 4SC

Herbicide

For use on Corn

This product is a suspension concentrate containing 4.18% active ingredient by weight.

Active Ingredients	By Weight
Nicosulfuron	
2-[[[(4,6-dimethoxy-2-pyrimidinyl)amino]carbonyl]amino]sulfonyl]-N,N-dimethyl-3-pyridinecarboxamide	4.18%
Other Ingredients	95.82%
TOTAL	100%

Contains 0.33 pounds active ingredient per gallon of formulated product.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF INHALED: Move person to fresh air.

If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

HOT LINE NUMBER

For 24-Hour Medical Emergency Assistance
(Human or Animal)
Call 1-888-484-7546.

For Chemical Emergency, Spill, Leak, Fire or
Accident, Call CHEMTREC 1-800-424-9300.

GROUP	2	HERBICIDE
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PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if absorbed through skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for Category A on the EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.

Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all ≥ 14 mils.

Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENVIRONMENTAL HAZARDS

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 rinsewater. Do not apply where/when conditions could favor runoff.

Read entire label carefully and use only as directed.

ISK Biosciences Corporation
7470 Auburn Road, Suite A
Concord, Ohio 44077 U.S.A.

EPA Reg. No. 71512-xx
EPA Est. No.

Manufactured in Japan

Net Contents: 5 gallons

ACCEPTED
with COMMENTS
In EPA Letter Dated:

NOV - 1 2007

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.

71512-16

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.

Chemical resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber, or nitrile rubber), all ≥ 14 mils.

Shoes plus socks.

ISK Biosciences Corporation Nicosulfuron 4SC herbicide should be used only in accordance with recommendations on this label or in supplemental ISK publications. ISK Biosciences Corporation will not be responsible for losses or damage resulting from use of this product in any manner not specifically recommended by ISK Biosciences.

GENERAL INFORMATION

Nicosulfuron 4SC herbicide is a suspension concentrate used at a rate 6 – 24 fl oz per acre for selective postemergence grass weed control in field corn. Do not apply to popcorn or sweet corn. Do not make more than two applications of Nicosulfuron 4SC per cropping season. The combined dosage of sequential applications cannot exceed 24 fl oz of Nicosulfuron 4SC per acre.

WHEN TO APPLY

NORMAL PLANNED USE

Nicosulfuron 4SC may be used on field corn. Do not apply to popcorn or sweet corn. Nicosulfuron 4SC may be broadcast to corn up to 20" tall (free standing) or that is exhibiting up to and including 6 leaf collars (V6), whichever is more restrictive. While Nicosulfuron 4SC has a wide application window, research has shown best results are obtained when applications are made early postemergence when corn and weeds are small. Target applications to corn that is less than 12" tall for best overall performance.

Timing to Weeds

Apply Nicosulfuron 4SC when grasses are young and actively growing, but before they exceed the sizes indicated in Table 1. Treat heavy infestations of weeds before they become too competitive with the crop, especially where soil moisture and/or fertility are limited. Nicosulfuron 4SC provides weed control via foliar absorption. Nicosulfuron 4SC only controls those weeds that have emerged. For later-emerging weeds, a second application or a timely cultivation is required. Applications made to weeds larger than the size indicated on this label or to weeds under stress may result in unsatisfactory control. Refer to LATE OR RESCUE APPLICATIONS.

LATE OR RESCUE APPLICATIONS

Nicosulfuron 4SC may be applied to field corn as a rescue treatment for the control of escaped grasses, or as a directed postemergence application on corn that is taller than 20" or which has more than 6 collars (which ever occurs first).

- For corn 20" to 36" tall, apply Nicosulfuron 4SC with drop nozzles only and avoid spraying into the whorl of cornstalks.
- Do not apply to corn that is taller than 36" or that exhibits 10 or more collars (V10), whichever is most restrictive.

Applications made to weeds larger than those listed on this label may vary from complete control to suppression. Level of control will depend on the weed species, stage of growth, and environmental conditions. Due to the unplanned nature of rescue applications, choices must be made between the risks that arise from applications made beyond the proper time for Nicosulfuron 4SC use, and the effects of season long grass competition and/or harvest complications. These choices must balance risks from improperly timed Nicosulfuron 4SC use that include, but are not limited to:

- Yield loss due to competition: Research indicates competition from foxtail exceeding 4 inches in height may reduce corn yields. Applications to foxtail and other annual grasses that exceed the sizes stated on the label increases the risk of yield losses due to prolonged competition with the crop even though control may be acceptable.
- Incomplete control of grasses beyond labeled size: Applications to grasses that exceed the labeled sizes can result in reduced control. This incomplete control may reduce corn yield.

- Incomplete grass control due to herbicide stress: Grasses under stress from previous herbicide applications may not be actively growing and susceptible to Nicosulfuron 4SC. This stress may reduce grass control in "rescue" situations.
- Ear malformation: Applications of Nicosulfuron 4SC on corn that has 7 to 10 collars (V7 to V10) increases the potential for ear malformation (pinching). This risk may be greatly reduced, but not eliminated, by using drop nozzles properly adjusted so as to not apply Nicosulfuron 4SC into the corn whorl.

RATE

Optimum control of the weeds listed can be achieved with 12 fl oz of Nicosulfuron 4SC. Weeds that exceed the listed weed sizes by up to 50% may be partially controlled with rates between 12 and 24 fl oz of Nicosulfuron 4SC per acre.

Nicosulfuron 4SC may be applied at 6 – 12 fl oz for limited control of certain small grass weeds. See Table 2, under ADDITIONAL RECOMMENDATIONS for details.

As weeds mature, their sensitivity to Nicosulfuron 4SC decreases. As grassy weeds become mature (more than 3 tillers), they may not reach the size listed below, due to drought or other environmental factors. Grassy weeds that are maturing rapidly should be treated before they reach the stages listed below.

When applied as directed, Nicosulfuron 4SC will control the following weeds:

Table 1. Weeds controlled with 12 fl oz Nicosulfuron 4SC

Grasses	Maximum Height or Diameter
Barnyardgrass	4"
Broadleaf signalgrass	2"
Foxtails (bristly, giant, green, yellow)	4"
Itchgrass	6"
Johnsongrass	
seedling	12"
rhizome	18"
Panicum (Texas, browntop)	3"
fall	4"
Quackgrass*	10"
Ryegrass (Italian, perennial)	6"
Sandbur (field, longspine)*	3"
Shattercane	12"
Sorghum alnum	12"
Timothy	6"
Volunteer cereals (barley, oats, rye, triticale, wheat)	6"
Wild oats	4"
Wild proso millet	4"
Wirestem muhly*	8"
Witchgrass	6"
Woolly Cupgrass"	4"

* Cultivation or re-treatment may be required. See "SEQUENTIAL NICOSULFURON 4SC APPLICATIONS"

Broadleaves Maximum Height or Diameter

Burcucumber	3"
Dandelion	6"
Hemp dogbane*	4"
Jimsonweed	3"
Morningglory (ivyleaf, pitted)	3"
tall	2"
Pigweed (redroot, smooth)	4"
Pokeweed*	4"
Smartweeds (ladythumb, PA)	4"
Thistle, Canada*	4"

* Suppression

Field Corn Grown for Seed

Nicosulfuron 4SC may be broadcast or applied with drop nozzles to field corn grown for seed that is less than 20" tall (free-standing) or that exhibits up to and including 5 leaf-collars (V5), whichever is most restrictive. Do not apply to corn that is taller than 20" or that exhibits more than 5 leaf-collars (V5), whichever is more restrictive.

Many seed companies have tested seed corn inbreds or hybrids for sensitivity to Nicosulfuron 4SC and have reported excellent safety.

However, not all seed corn inbreds have been tested, nor does ISK Biosciences have access to all seed company data. Consequently, ISK Biosciences is not responsible for any crop injury arising from the use of ISK Biosciences Nicosulfuron 4SC on field corn grown for seed. When tank mixing, check the tank mix partner label for tolerances and instructions for use.

See **Soil Insecticide Interaction Information** regarding the use of Nicosulfuron 4SC on field corn grown for seed that has been previously treated with a soil insecticide.

SPRAY ADJUVANTS

Addition of a surfactant is not required for applications of Nicosulfuron 4SC.

MIXING INSTRUCTIONS

1. Ensure the spray system is free of residues from previous applications.
2. Fill the tank 1/2 full of clean water.
3. While agitating, add the required amount of Nicosulfuron 4SC and complete filling with water.
4. Thoroughly mix Nicosulfuron 4SC with water before adding any other material.
5. Continue agitation until the spraying is completed.
6. Avoid overnight storage of Nicosulfuron 4SC spray mixtures.
7. If Nicosulfuron 4SC and a tank mix partner are to be applied in multiple loads, repeat the above procedures from 2 to 5.

WHEN TO APPLY- SEQUENTIAL APPLICATIONS FOLLOWING REDUCED RATES OF PREEMERGENCE HERBICIDES

Nicosulfuron 4SC may be used as a sequential application in a planned postemergence weed control program in corn following a reduced rate of a preemergence herbicide. Apply a reduced rate of a preemergence grass herbicide prior to corn emergence and then follow with a postemergence application of Nicosulfuron 4SC. Apply products such as "CINCH", "CINCH ATZ", "Balance" PRO, "Axiom", "Dual" H Magnum, "Surpass", "Outlook" and "Harness" Xlra at as low as 1/4 to 1/2 of the full labeled use rate and follow with a sequential postemergence application of Nicosulfuron 4SC. Refer to the preemergence grass herbicide label for use restrictions, application information, rotational crop guidelines, and cautionary statements prior to applying Nicosulfuron 4SC. Do not apply Nicosulfuron 4SC to corn that exhibits herbicide injury from previous applications made to the current or preceding crop.

TANK MIX APPLICATIONS

For Additional Control of Broadleaf Weeds

Nicosulfuron 4SC may be tank mixed with many herbicides registered for postemergence application in corn for additional control of broadleaf weeds. See the tank mix partner label for weeds controlled, precautions, use restrictions, adjuvant and crop rotation information. The most restrictive language on either label shall apply.

Check with the manufacturer for information on tank mix compatibility prior to using (see TANK MIX COMPATIBILITY TESTING).

ADDITIONAL RECOMMENDATIONS AND/OR RECOMMENDATIONS FOR SPECIFIC WEED PROBLEMS

Reduced Rates of Nicosulfuron 4SC

Nicosulfuron 4SC may be applied at 6 – 12 fl oz/acre for control of the small grass weeds noted in the table below.

Table 2. Weeds controlled with reduced rates of Nicosulfuron 4SC.

Grasses	Maximum Height or Diameter Nicosulfuron 4SC Rate		
	6 fl oz	9 fl oz	12 fl oz
Barnyardgrass	2"	3"	4"
Foxtails (bristly, giant, green)	2"	3"	4"
yellow	--	2"	4"
Itchgrass	2"	4"	6"
Johnsongrass, seedling	--	8"	12"
rhizome	--	8"	18"
Panicum (Texas, browntop)	1"	2"	3"
fall	1"	2"	4"
Sandbur (field, longspine)	--	1"	3"
Shattercane	3"	6"	12"
Sorghum alnum	3"	6"	12"
Timothy	2"	4"	6"
Volunteer cereals	--	2"	6"
Wild oats	2"	3"	4"
Wild proso millet	--	2"	4"
Witchgrass	2"	4"	6"
Woolly cupgrass	--	--	4"

Tank Mixtures with Atrazine

Nicosulfuron 4SC may be tank mixed with up to 2 lb a.i. atrazine* for additional control of many broadleaf weeds, including:

Maximum Height or Diameter	
Sicklepod	2"
Prickly sida	2"
Wild Radish	12"
Cutleaf evening primrose	6"
Florida pusley	2"

*For best results add 0.25 - 2.0 qt Atrazine 4L OR 4 - 35 oz Atrazine 90DF. Products containing atrazine are restricted use products.

Nicosulfuron 4SC + atrazine tank mixtures may result in reduced control of grasses (antagonism) if applied to grasses under low moisture stress or to grasses exceeding the maximum labeled height. Before applying Nicosulfuron 4SC + atrazine tank mixtures, refer to the atrazine product label for information regarding the maximum amount of atrazine that may be applied in a season.

Tank Mixtures with Insecticides

Nicosulfuron 4SC may be tank mixed with pyrethroid or carbamate insecticides such as "ASANA XL" or "LANNATE" insecticides. See Soil Insecticide Interaction section for information on use of Nicosulfuron 4SC following soil insecticides application.

Other Tank Mixtures

Other than the exceptions noted, and in addition to the tank mix partners and rates indicated above, Nicosulfuron 4SC may be tank mixed or followed with sequential applications of other products registered for use in field corn. Applications of full or reduced rates of other products registered for use in corn can be made provided:

- The tank mix product is labeled for the same timing, method of application and use restrictions as Nicosulfuron 4SC.
- The tank mixture is not specifically prohibited on the label of the tank mix product.
- The tank mix combination is compatible as determined by a "jar test" described in the TANK MIX COMPATIBILITY TESTING section below.

Weed control and crop response with tank mixtures not specifically recommended in this label are the responsibility of the user and manufacturer of the tank mix product.

Tank Mixing Precautions:

A corn plant's predisposition to develop fused tissue emerging from the whorl (rattail) after the V-11 stage may increase when a product containing dicamba (i.e. "Clarity", "Marksman") is applied to small corn under early stressful conditions. Be aware of this when applying tank mixes with dicamba to small corn (V-3 stage or smaller) under stressful conditions. See ENVIRONMENTAL CONDITIONS for a description of these stressful conditions.

To avoid crop injury or antagonism, apply the products indicated below at least seven days before or three days after the application of Nicosulfuron 4SC.

- Do not tank mix Nicosulfuron 4SC with "Basagran" and "Laddok" or severe crop injury may occur.
- Do not tank mix Nicosulfuron 4SC with 2,4-D – containing products as severe grass control antagonism may occur.
- Do not tank mix Nicosulfuron 4SC with foliar-applied organophosphate insecticides such as "Lorsban", malathion, parathion, etc., as severe crop injury may occur.

Do not exceed labeled application rates. Do not tank mix Nicosulfuron 4SC with other products that contain the same active ingredients as Nicosulfuron 4SC (nicosulfuron) unless the label of either tank mix partner specifies the maximum rate that may be used.

TANK MIX COMPATIBILITY TESTING

Perform a jar test prior to tank mixing to ensure compatibility of Nicosulfuron 4SC and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

SEQUENTIAL NICOSULFURON 4SC APPLICATIONS

Annual grasses may have more than one flush of emerging seedlings. Also, regrowth of treated annual grasses may occur due to adverse environmental conditions following application. Perennial grasses may regrow from underground stems or roots, depending upon environmental conditions. To control grasses under these conditions, a sequential application of Nicosulfuron 4SC may be necessary. The combined dosage of the sequential applications cannot exceed 24 fl oz per acre of Nicosulfuron 4SC.

CULTIVATION

A timely cultivation may be necessary to control suppressed weeds, or weeds that emerge after an application of Nicosulfuron 4SC.

Optimum timing for cultivation is 7-14 days after Nicosulfuron 4SC application or upon seeing the establishment of new weeds.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

Nicosulfuron 4SC provides best results when applied to young, actively growing weeds. Applications made during warm, moist conditions (70°F or more) and adequate soil moisture both before and after application maximizes performance.

The degree and duration of control depend on spray coverage, weed spectrum, weed size, growing conditions before and after treatment and soil moisture.

Nicosulfuron 4SC is rainfast in 4 hours.

Treating weeds that exceed maximum label height or that are under stress may result in incomplete control. Poor weed control or crop injury may result from applications made to plants under stress from:

- abnormally hot or cold weather
- environmental conditions such as drought, water-saturated soils, hail damage, or frost
- disease, insect, or nematode injury
- prior herbicide, or carryover from a previous year's herbicide application

Severe stress from conditions preceding or immediately following application may also result in crop injury or poor weed control. Stress affects all weeds, but especially weeds such as woolly cupgrass, green and yellow foxtail, and wild proso millet.

If the corn or grass weeds are under stress, delay application until stress passes and both weeds and corn resume active growth.

Nicosulfuron 4SC rapidly inhibits the growth of susceptible weeds, reducing weed competition within as little as 6 hours after application. Susceptible plants are controlled in 7-21 days.

SOIL INSECTICIDE INTERACTION INFORMATION

Before using Nicosulfuron 4SC, ensure that it is compatible with any insecticides previously applied to the corn crop. Nicosulfuron 4SC may interact with certain insecticides previously applied to the crop. Crop response varies with field corn type, insecticide used, insecticide application method, and soil type.

Nicosulfuron 4SC may be applied to corn previously treated with "Fortress", "Aztec", or "Force" insecticides or nonorganophosphate (OP) soil insecticides regardless of soil type.

- DO NOT APPLY Nicosulfuron 4SC to corn previously treated with "Counter" 15G or to corn treated with "Counter" 20CR in furrow or over the row at cultivation.
- Applications of Nicosulfuron 4SC to corn previously treated with "Counter" 20CR, "Lorsban", or "Thimet" may cause unacceptable crop injury, especially on soils of less than 4% organic matter.

CROP ROTATION

Rotational crops vary in their response to low concentrations of Nicosulfuron 4SC remaining in the soil. Nicosulfuron 4SC dissipates rapidly in warm, acidic, microbiologically active soils.

The amount of Nicosulfuron 4SC which may be present in the soil depends on application rate, soil pH and organic matter content, elapsed time since application, crop production practices, and environmental factors. Injury to rotational crops may occur in high-pH, cold soils if dry weather prevails between application and rotational crop planting.

Soil pH should be determined by laboratory analysis using the 1:1 soil:water suspension method on representative soil samples taken at 0-4" depth. Soil pH varies within fields; therefore, re cropping should be based on the highest soil pH within each field. Consult local extension publications for recommended soil sampling procedures.

The following rotational intervals should be observed when using Nicosulfuron 4SC at a maximum of 24 fl oz:

NICOSULFURON 4SC ROTATIONAL CROP GUIDELINE - 1 No soil pH restrictions

Crop	Rotational Interval in Months
Corn (field, seed)	Anytime
Corn (pop, sweet)*	10
Soybeans	0.5 (15 days)
Cereals, spring (barley, oats, rye, wheat)	8
Cereals, winter (barley, oats, rye, wheat)	4
Cotton	10
Dry Beans, Peas, Snap Beans	10
Alfalfa**	12
Red Clover**	12
Other Crops	See Rotational Crop Guidelines 2 and 3

* Except the sweet corn varieties "Merit", "Carnival", and "Sweet Success", for which the minimum time interval is 15 months.

**Except for the state of Kansas east of Highway 75, for Minnesota east and south of the Red River Valley and for the states east of the line formed by the western borders of Iowa, Missouri, Arkansas, and Louisiana, where the minimum time interval is 10 months.

NICOSULFURON 4SC ROTATIONAL CROP GUIDELINE - 2 With soil pH >7.5 restrictions

Crop	Rotational Interval in Months pH 7.5	pH > 7.5
Sorghum	10	18*
Sunflowers	11**	18
All other crops not listed	See Rotational Guideline 3 in Rotational Guidelines 1 or 2	

* Except in Texas and Oklahoma east of Highway 281, where the rotational interval is 10 months, regardless of pH.

**Precipitation following application must exceed 14" prior to planting sunflowers.

NICOSULFURON 4SC ROTATIONAL CROP GUIDELINE - 3 With soil pH >6.5 restrictions

Crop	Rotational Interval in Months pH 6.5	pH > 6.5
Sugarbeets*, potatoes**	10	18***
All other crops not listed	10	18
in Rotational Guidelines 1 or 2		

* Except on irrigated sites in Colorado, Wyoming, Nebraska, Texas, Michigan, and Ohio, where precipitation following application must exceed 25" prior to planting beets, where the interval is 10 months on soils with pH < 7.5. Sites in Minnesota east and south of the Red River Valley may follow these guidelines provided maximum rates of Nicosulfuron 4SC do not exceed 12 fl oz.

** Irrigated potatoes following irrigated corn treated in the States of WA, OR, ID, or Utah can be planted 10 months after using Nicosulfuron 4SC on sprinkler irrigated corn with no soil pH restrictions, providing the maximum use rate on corn does not exceed 18 fluid ounces product per season. Corn treated with Nicosulfuron 4SC must be grown to maturity and receive a minimum of 18 inches of irrigation water before potatoes can be planted at this rotation interval. Injury to potatoes may occur if less than 18 inches of irrigation is used on the previous corn crop. Nicosulfuron 4SC may not be used in a tankmix or sequential application program with other ALS-inhibiting herbicides such as "Exceed" or "Beacon".

***In North Dakota and northwest Minnesota, the cumulative precipitation in the 18 months following application must exceed 28" in order to rotate to sugarbeets or potatoes.

ROTATIONAL CROP GUIDELINE - 4 may be observed when using a single application of Nicosulfuron 4SC per cropping season with a maximum use rate of 12 fl oz product. Rotational intervals should be extended to 12 months if drought conditions prevail after application and before the rotational crop is planted, unless sprinkler irrigation has been applied and totals greater than 15" during the growing season.

NICOSULFURON 4SC ROTATIONAL CROP GUIDELINE - 4 With 12 fl oz maximum use rate

Crop	Rotational Interval in Months
Alfalfa*	10
Potato	10
Sunflower	10
Red clover	10
Canola	10

* On sprinkler-irrigated fields in Idaho, Utah, and Northern Nevada, it is best to use deep fall tillage such as plowing prior to planting alfalfa. Product degradation may be less on furrow-irrigated soils and may result in some crop injury.

APPLICATION INFORMATION

Many crops are highly sensitive to Nicosulfuron 4SC. All direct or indirect contact (such as spray drift) with crops other than field corn should be avoided (see also SPRAY DRIFT MANAGEMENT).

For all application systems, use 50-mesh or larger strainer screens.

Do not apply Nicosulfuron 4SC through any type of irrigation system.

GROUND APPLICATION

Broadcast Application

- Use a minimum of 15 gallons of water per acre (15 GPA) for best performance. Use a minimum of 10 gallons of water per acre (GPA) for light, scattered stands of weeds.
- For best performance, select nozzles and pressure that deliver MEDIUM spray droplets, for example, as indicated in nozzle manufacturer's catalogues and in accordance with ASAE Standard S572. Nozzles that deliver COARSE spray droplets may be used to reduce drift, provided spray volume is increased to maintain coverage on small weeds. For optimal product performance and minimal spray drift, adjust the spray boom to the lowest possible spray height recommended in manufacturers' specifications.
- Ensure that equipment is set up to avoid applying an excessive rate directly over the rows and into the corn plant whorl. This is most likely to occur when a nozzle is positioned directly above the row.
- Overlaps or starting, stopping, slowing, and turning while spraying may result in crop injury.

Band Application

For band applications, use proportionately less spray mixture, and carefully calibrate the band applicator to not exceed the labeled rate. Carefully follow the manufacturer's instructions for nozzle type (flat fans), orientation, distance of nozzles from the crop and weeds, spray volumes, calibration and spray pressure.

AERIAL APPLICATION

In New York State and California aerial application is not permitted.

Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage at a minimum of 3 GPA.

Do not apply during a temperature inversion, when winds are gusty, or when conditions favor poor coverage and/or off-target spray movement.

SPRAYER PREPARATION/CLEANUP

It is important that spray equipment is clean and free of previous pesticide deposits before using Nicosulfuron 4SC and then properly cleaned out following application. Clean all application equipment before applying Nicosulfuron 4SC. Follow the cleanup procedures specified on the label of the product previously sprayed. If no cleanup procedure is provided, use the procedure that follows. Immediately following applications of Nicosulfuron 4SC, thoroughly clean all mixing and spray equipment to avoid subsequent crop injury.

Note:

- When cleaning spray equipment before applying Nicosulfuron 4SC, read and follow label directions for proper rinsate disposal of the product previously sprayed.
- Steam cleaning of aerial spray tanks will help to dislodge any visible pesticide deposits.
- When spraying or mixing equipment will be used over an extended period to apply multiple loads of Nicosulfuron 4SC, partially fill the tank with fresh water at the end of each day of spraying, flush the boom and hoses, and allow to sit overnight.

Cleanup Procedure

1. Drain the tank and thoroughly hose down the interior surfaces. Flush the tank, hoses, and boom with clean water for a minimum of 5 min.
 2. Partially fill the tank with clean water and add one gal of household ammonia* (containing 3% active) for every 100 gal of water. Finish filling the tank with water, then flush the cleaning solution through the hoses, boom, and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 min. Again, flush the hoses, boom, and nozzles with the cleaning solution, then drain the tank.
 3. Repeat Step 2.
 4. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.
 5. Thoroughly rinse the tank with clean water for a minimum of 5 min, flushing the water through the hoses and boom.
- * Equivalent amounts of an alternate strength ammonia solution or a tank cleaner may be used.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

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Controlling Droplet Size - General Techniques

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

Controlling Droplet Size - Aircraft

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - The boom length should not exceed $\frac{3}{4}$ of the wing or rotor length - longer booms increase drift potential.
- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID GUSTY OR WINDLESS CONDITIONS.**

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator.

Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

RESISTANCE MANAGEMENT

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes.

Nicosulfuron 4SC is a Group 2 Herbicide that controls weeds by inhibiting the acetolactate synthase (ALS) biochemical process. Some weeds may contain naturally occurring populations that are resistant to ALS inhibiting herbicides. Applications of ALS inhibiting herbicides, when used alone, over a period of time may lead to biotypes that are resistant to ALS herbicides. This then leads to a reduction in the level of control obtained through the use of these herbicides. To prevent or delay the build-up of ALS resistant weeds, weed management programs should include the use of appropriate registered herbicides for control of these weeds that have a different mode of action. Applications of herbicides with a different mode of action should be used during the same year or in sequential years. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

IMPORTANT PRECAUTIONS

Injury to or loss of desirable vegetation may result from failure to observe the following:

- Do not apply Nicosulfuron 4SC or drain or flush application equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.
- Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- Prevent drift of spray to desirable plants.
- Do not contaminate any body of water.
- Thoroughly clean application equipment immediately after use. (See the Sprayer Cleanup section of this label for instructions.)
- Do not graze or feed forage, hay, or straw from treated areas to livestock within 30 days of Nicosulfuron 4SC application.

STORAGE AND DISPOSAL

Storage: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place.

Product Disposal: Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: For Plastic Containers: Triple rinse (or equivalent) the container. 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.

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