

Pysonex™

Herbicide

For Use on Cotton in the States of AL, AR, AZ, CA, FL, GA, KS, LA, MO, MS, NC, NM, OK, PR, SC, TN, TX, & VA

<i>Active Ingredient</i>	<i>By Weight</i>
Pyriithiobac sodium	
Sodium 2-chloro-6-[(4,6-dimethoxy pyrimidin- 2-yl)thio]benzoate	33.6%
<i>Inert Ingredients</i>	66.4%
TOTAL	100.0%

Equivalent to 3.2 lb ai per gal
EPA Reg. No. 352-613-85588

KEEP OUT OF REACH OF CHILDREN

CAUTION!

FIRST AID

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-261-1410 for medical emergencies involving this product.

PRECAUTIONARY STATEMENTS HAZARD TO HUMANS AND DOMESTIC ANIMALS

CAUTION!

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- 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.

Engineering Control Statement: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is highly toxic to nontarget plants adjacent to area of application. Do not apply this product or allow it to drift to areas where endangered or desired plant species exist.

Do not apply directly to water, or 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 or rinsate.

(U.S. except California)

GENERAL INFORMATION

Pysonex™ herbicide may be applied preemergence, postemergence or post-directed to cotton and weeds by ground application equipment. Pysonex™ herbicide may also be applied postemergence to cotton and weeds by aerial equipment (except in Arizona). If Pysonex™ herbicide is used in a tank mixture with other herbicides, read and follow all use instructions, warnings and precautions on companion herbicide labels.

BIOLOGICAL INFORMATION

Pysonex™ herbicide is absorbed by weed foliage following postemergence application. Thorough coverage of target weed species, including the weed terminals or growing points, is required to obtain best results. When using a banded spray application, the band spray area should be of sufficient width to ensure thorough coverage of target weeds.

Growth of susceptible weeds is rapidly inhibited. Growing points and leaves of susceptible weeds appear yellow in 5-10 days. Death of leaf tissue and growing points will follow in some species, while others remain green but stunted and non-competitive. Susceptible weeds are controlled in 14-28 days.

Do not apply Pysonex™ herbicide on any crops other than cotton. Most crops other than cotton are sensitive to Pysonex™ herbicide. All direct and indirect contact (such as drift) to crops other than cotton or land not scheduled to be planted to cotton in the current growing season should be avoided.

RESISTANCE

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. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

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. 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.

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.

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 in your State responsible for pesticide regulation.

Agsurf will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Agsurf.

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) \geq 14 mls.

Shoes plus socks.

APPLICATION INFORMATION

ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE

Weather: Conditions which are conducive to healthy, actively growing weeds optimize Pysonex™ herbicide postemergence weed control performance. Ideal conditions include warm soil temperatures (70 Deg. F or more) and adequate soil moisture before, during and immediately after application.

Rainfastness: Rainfall immediately after treatment may wash Pysonex™ herbicide off the weed foliage and result in reduced weed control. A minimum of 4 hours is needed to allow Pysonex™ herbicide to be absorbed by weed foliage.

SPRAY VOLUMES

Ground Application - Apply uniformly by ground with a properly calibrated low pressure (20-40 psi) boom or cultivator mounted sprayer equipped with flat fan nozzles. Use a minimum of 10 gal. water per acre. Under heavy weed pressure or dense crop foliage, increase minimum spray volume to 20-40 gal. per acre.

Aerial Application (except Arizona) - Use orifice discs, cores and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage at a minimum of 3 GPA. Do not apply during inversion conditions, when winds are gusty, or when other conditions will favor poor coverage and/or drift.

SEQUENTIAL APPLICATIONS

Annual broadleaf weeds may have more than one flush of emerging seedlings. Also, regrowth of treated annual weeds may occur due to application being made to weeds under stress from adverse growing conditions. To control weeds under these conditions, a sequential application of Pysonex™ herbicide may be necessary.

If a respray of treated annual weeds is necessary, allow the weeds to begin to regrow prior to making a second application of Pysonex™ herbicide.

When using Pysonex™ herbicide in sequential treatment program, allow a minimum of 7 days between applications.

GENERAL USE PRECAUTIONS

- Do not exceed 2.1 fl oz/A preemergence.
- Do not exceed 3.8 fl oz/A in a single postemergence application.
- Do not exceed 5.1 fl oz per acre per year.
- In West Texas (broadly defined as West of Highway 83), do not apply more than 3.2 fluid ounces total per acre per year. Where continuous cotton is grown, do not apply more than 5.1 fluid ounces total per acre per year.
- Do not apply this product through any type of irrigation system.
- Do not apply to irrigated land where tail water will be used to irrigate crops other than cotton.
- Do not apply within 60 days of harvest.

TANK MIX PRECAUTIONS

This product can be mixed with pesticide products labeled for use on cotton in accordance with the most restrictive of label limitations. Read all label precautions for tank mix partners prior to use. Follow all manufacturers label recommendations for the companion product. If these recommendations conflict with this label, do not tank mix with Pysonex™ herbicide.

Since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures.

Do not tank mix Pysonex™ herbicide with metolachlor herbicides (such as "Dual Magnum") as a postemergence treatment over the top of cotton as crop injury may result.

Do not tank mix Pysonex™ herbicide with malathion-containing insecticides (such as "Cythion" RTU or "Cythion" ULV) as crop injury may result. To avoid crop injury, apply malathion-containing insecticides at least 24 hours before or after application of Pysonex™ herbicide.

PIMA COTTON PRECAUTION

Foliar injury to Pima cotton varieties from postemergence applications of Pysonex™ herbicide can be more severe than that occasionally observed on upland cotton varieties (see NOTE: under POSTEMERGENCE USE section of label). Any of the plant stress conditions mentioned in the POSTEMERGENCE USE Note paragraph may further increase the severity of the injury to Pima varieties. Consequently, Agsurf is not responsible for any crop injury arising from the use of Pysonex™ herbicide on Pima cotton varieties.

PREEMERGENCE USE

Pysonex™ herbicide may be applied preemergence in cotton to aid in the control of many problem weeds.

Pysonex™ herbicide is absorbed by weed roots following a preemergence application. Susceptible weeds may germinate and emerge, but growth is rapidly inhibited. Death of leaf tissue and growing points will follow in some species while others remain green but stunted and non-competitive.

Preemergence applications of Pysonex™ herbicide require rainfall or sprinkler irrigation to activate the herbicide. Degree and duration of weed control depend on: rate used, weed spectrum, growing conditions at and following time of treatment, soil texture, organic matter, soil moisture at the time of treatment, and precipitation following treatment.

The amount of rainfall required to activate Pysonex™ herbicide preemergence treatments depends on the amount of soil moisture available when rainfall is received. Several rainfalls of 0.25 inch or less are not as effective as one rainfall or supplemental irrigation of 0.5-1 inch for activation.

Note: Temporary leaf yellowing and/or stunting may occur following a preemergence treatment. Plant stresses from seedling diseases, cool soil temperatures (60° F or less), thrips injury or excessive soil moisture may increase the sensitivity of cotton to injury from preemergence treatments of Pysonex™ herbicide.

PREEMERGENCE USE PRECAUTIONS

- Do not use on cotton planted in furrows.
- Do not use on soils with less than 0.5% organic matter (OM).
- Do not use on coarse soils such as sands or loamy sands.
- Do not apply more than one preemergence application per year.
- Do not apply Pysonex™ herbicide preemergence by aerial application.

WEEDS CONTROLLED OR SUPPRESSED

Pysonex™ herbicide may be applied preemergence in cotton (including glyphosate ("Roundup" Ready), glufosinate ("LibertyLink"), and bromoxynil (BXN) tolerant varieties) for the CONTROL of pigweed (redroot, smooth), prickly sida, spotted spurge, spurred anoda & velvetleaf, and SUPPRESSION of annual morningglory (cypressvine, entireleaf, ivyleaf, pitted, purple, red/scarlet, sharppod/cotton, small flower, threelobe, wooly), lambsquarters, smartweed (ladysthumb, pennsylvania), jimsonweed, coffee senna, palmer pigweed, lanceleaf sage, barnyardgrass, broadleaf signalgrass, goosegrass, fall panicum, giant foxtail, seedling johnsongrass & large crabgrass.

APPLICATION RATES

Pysonex™ herbicide may be applied preemergence at the rates of 1.3 - 2.1 fl oz product/A. Use the higher rate of Pysonex™ herbicide for harder to control weeds and/or in fields where high weed infestation levels are known to occur (see Specific Weed Problems section).

All rates are broadcast. Use proportionately less for band application.

PREEMERGENCE COMBINATIONS

For improved control of weeds, such as, prairie sunflower, lanceleaf sage and annual morningglory (entireleaf, ivyleaf, pitted, red morningglory, sharppod), Pysonex™ herbicide may be applied preemergence in combination with diuron ("Karmex"). See "TANK MIX PRECAUTIONS" on page 3 for additional information.

Pysonex™ herbicide + “Karmex”, “Direx”

Medium Soils (sandy loam, loam, silt loam, silt): Apply Pysonex™ herbicide at 1.3 - 1.7 fluid ounces per acre plus diuron at 1.0 pound a.i. per acre.

Fine Soils (sandy clay loam, clay loam, silty clay loam, sandy clay): Apply Pysonex™ herbicide at 1.3 - 2.1 fluid ounces per acre plus diuron at 1.25 a.i. pound per acre.

- Do not use on soils with less than 1% organic matter when tank mixing with diuron.
- Do not use soil applied organophosphate insecticides where diuron will be applied preemergence. Refer to the specific diuron labels for further application information and use restrictions.

Note: A second application of Pysonex™ herbicide may be applied postemergence if needed for extended weed control. See the POSTEMERGENCE USE section of this label for further application information and use restrictions.

PREEMERGENCE/POSTEMERGENCE PROGRAMS

A program of Pysonex™ herbicide at 1.3 - 2.1 fl oz /A plus “Cotoran” applied preemergence followed by Pysonex™ herbicide early postemergence is recommended for improved control of bristly starbur, coffee senna, common ragweed, Florida beggarweed, hemp sesbania, jimsonweed, ladythumb smartweed, lambsquarter, annual morningglory (cypressvine, entireleaf, ivyleaf, pitted, purple, red/scarlet, sharppod/cotton, smallflower) Pennsylvania smartweed, pigweed (redroot, smooth, spiny), prickly sida, spotted spurge, spurred anoda, velvetleaf and for suppression of palmer pigweed.

Specific Weed Problems (Sicklepod, Wild Poinsettia, Yellow Nutsedge): For improved control of the above weeds and other labeled weeds that often occur in high populations and/or have multiple seasonal flushes, a program of Pysonex™ herbicide at 1.7 - 2.1 fl oz /A plus “Cotoran” applied preemergence followed by a postemergence application of Pysonex™ herbicide alone or in combination with MSMA or DSMA is recommended.

Refer to the **POSTEMERGENCE USE** section of this label for use rates, application timings and restrictions.

POSTEMERGENCE USE

Application should be made postemergence (over-the-top) or as a post-directed spray to cotton (begin at cotyledon stage) and actively growing weeds. The degree of control and duration of effect are dependent on sensitivity and size of target weed and environmental conditions at time of and following application.

Application should be made by ground or aerial equipment (except Arizona). In Arizona, apply Pysonex™ herbicide by ground equipment only.

Postemergence applications should be made to young, actively growing weeds. Control may be reduced if application is made to weeds under stress due to severe environmental conditions such as drought, excessive soil moisture or cool soil or air temperatures (60° F or less).

Foliar absorption is the primary means of uptake from postemergence applications of Pysonex™ herbicide. Therefore, select a spray volume, delivery system and uniform spray pattern that will insure thorough coverage of the target weed species (including the growing point) to obtain best results. Increase spray volume as weed density and size increases. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

Note: Pysonex™ herbicide may cause temporary leaf yellowing, bronzing and/or leaf crinkling when applied as a postemergence application. Plant stresses from seedling diseases, insects (thrips injury), blowing sand (sand blasting), hail injury, cool soil or air temperatures (60° F or less), extreme temperature variations and lack of or excessive soil moisture just prior to or soon after treatment may increase the sensitivity of cotton to injury from Pysonex™ herbicide treatments. To reduce the potential for increased cotton sensitivity, allow cotton plants to recover from stress conditions (approximately 2 days) prior to postemergence applications of Pysonex™ herbicide.

APPLICATION RATES

Apply Pysonex™ herbicide at 2.6 to 3.8 fl oz product/A for control of the weeds listed in “Weeds Controlled” section. Use the higher rate for arid growing conditions or where weed infestations are severe.

All rates are broadcast. Use proportionately less for band applications.

Note: In New Mexico and W. Texas (broadly defined as West of Highway 83) on sand or loamy sand soil types with less than 1% OM, confine in-season applications of Pysonex™ herbicide to a band of no more than one-third the row width. If replanting back to cotton is necessary, replant outside the original treated band.

SPRAY ADDITIVES

Add a nonionic surfactant cleared for application to growing crops, at the rate of 0.25% V/V with all postemergence applications.

For the states of AZ, KS, NM, OK and TX, add a nonionic surfactant cleared for application to growing crops, at the rate of 0.25-0.5% V/V or a crop oil concentrate cleared for application to growing crops, at the rate of 1-2% V/V with all postemergence applications. Under arid conditions, a crop oil concentrate is recommended.

TIMING

Pysonex™ herbicide may be used as a postemergence (over-the-top) or post-directed application to young, actively growing weeds.

WEEDS CONTROLLED

Common Name	Scientific Name	Height or Diameter (inches)
Citronmelon	<i>Citrullus lanatus</i>	1-4
Cocklebur, common†	<i>Xanthium strumarium</i>	1-4
Cocklebur, common	(AZ, KS, NM, OK, TX only)	1-3
Coffee senna	<i>Cassia occidentalis</i>	1-4
Cowpea	<i>Vigna sinensis</i>	1-4
Dayflower, common/asiatic	<i>Commelina communis</i>	1-3
Devils claw	<i>Proboscidea louisianica</i>	1-2
Dock, curly	<i>Rumex crispus</i>	1-4
Florida beggarweed	<i>Desmodium tortuosum</i>	1-4
Goosefoot, nettleleaf	<i>Chenopodium murale</i>	1-2
Groundcherry, wright	<i>Physalis wrightii</i>	1-2
Jimsonweed	<i>Datura stramonium</i>	1-4
Knotweed, silversheath	<i>Polygonum argyrocoleon</i>	1-2
Ladysthumb	<i>Polygonum persicaria</i>	1-4
Morningglory,		
cypressvine	<i>Ipomoea quamoclit</i>	1-4
entireleaf	<i>Ipomoea hederacea</i>	1-4
ivyleaf	<i>Ipomoea hederacea</i>	1-4
pitted	<i>Ipomoea lacunosa</i>	1-3
purple	<i>Ipomoea turbinata</i>	1-4
red/scarlet	<i>Ipomoea coccinea</i>	1-3
sharppod/cotton (seedling)	<i>Ipomoea trichocarpa</i>	1-3
smallflower	<i>Jacquemontia tamnifolia</i>	1-4
threelobe	<i>Ipomoea triloba</i>	1-3
woolly	<i>Ipomoea hirsutula</i>	1-3
Mustard, black	<i>Brassica nigrum</i>	1-2
Nightshade		
black	<i>Solanum nigrum</i>	1-2
hairy	<i>Solanum sarrachoides</i>	1-2
Pigweed		
redroot	<i>Amaranthus retroflexus</i>	1-2
smooth	<i>Amaranthus hybridus</i>	1-2
spiny	<i>Amaranthus spinosus</i>	1-2
tumble	<i>Amaranthus albus</i>	1-2
Redweed	<i>Melochia corchorifolia</i>	1-4
Rocket, London	<i>Sisymbrium irio</i>	1-2
Sage, lanceleaf	<i>Salvia reflexa</i>	0.25-0.5
Sesbania, hemp***	<i>Sesbania exaltata</i>	1-4
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	1-2
Sida, prickly	<i>Sida spinosa</i>	0.25-1
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	1-4
Smellmelon	<i>Cucumis melo</i>	1-3
Spiderflower, spiny	<i>Cleome spinosa</i>	1-4
Spurred anoda	<i>Anoda cristata</i>	1-4
Starbur, bristly	<i>Acanthospermum hispidum</i>	1-2
Sunflower		
common	<i>Helianthus annuus</i>	1-4
prairie	<i>Helianthus petiolaris</i>	1-3
Thistle, Russian	<i>Salsola iberica</i>	1-2
Velvetleaf	<i>Abutilon theophrasti</i>	1-4
Waterhemp, common	<i>Amaranthus tamariscinus</i>	1-4
Watermelon (volunteer)	<i>Citrullus vulgaris</i>	1-2
Wild poinsettia	<i>Euphorbia heterophylla</i>	1-2
Wild radish	<i>Raphanus raphanistrum</i>	1-2

WEEDS SUPPRESSED††

Common Name	Scientific Name	Height or Diameter (inches)
Pigweed, palmer†*	<i>Amaranthus palmeri</i>	1-2
Puncturevine	<i>Tribulus terrestris</i>	1-2
Purple nutsedge	<i>Cyperus rotundus</i>	2-4
Purslane, common	<i>Portulaca oleracea</i>	1-2
Sicklepod	<i>Cassia obtusifolia</i>	0.5-2
Yellow nutsedge	<i>Cyperus esculentus</i>	2-4

† Naturally occurring biotypes of this weed resistant to Pysonex™ herbicide are known to exist. Pysonex™ herbicide will not control these biotypes. See Information in Resistance section.

†† Weed suppression is a visual reduction in weed competition (reduced population and/or vigor) as compared to an untreated check. The degree of control will vary with the rate used, size of weeds, crop competition, and environmental conditions.

* In AL, AZ, FL and GA only, Palmer Pigweed is controlled at the height of 1-2 inches.

*** Effective control may require sequential applications of Pysonex™ herbicide as cotyledon to one-leaf stage plants are more difficult to control.

POSTEMERGENCE COMBINATIONS

Pysonex™ herbicide may be tank mixed with other suitable registered herbicides to control weeds in addition to those listed.

Pysonex™ herbicide can also be mixed with other suitable registered PGR's and insecticides labeled for use on cotton.

See "TANK MIX PRECAUTIONS" on page 3 for additional information.

Pysonex™ herbicide plus "Assure" II: Johnsongrass

Pysonex™ herbicide may be tank mixed with "Assure" II for additional early postemergence control of johnsongrass in cotton. This tank mix will also control many other grass species. Refer to "Assure" II label for rates and timing of application.

Tank mixes of Pysonex™ herbicide with other post grass herbicides can result in antagonism and partial control of of rhizome johnsongrass or annual grasses. To avoid poor control of rhizome johnsongrass or annual grasses apply other post grass herbicides at least 3 days prior to the application of Pysonex™ herbicide.

Pysonex™ herbicide plus MSMA or DSMA

Pysonex™ herbicide may be tank mixed with MSMA or DSMA and applied POST-DIRECTED for improved control of certain broadleaf weeds and suppression of sedges. Refer to MSMA or DSMA label for information on weeds, weed sizes, application conditions and use restrictions (follow label guidelines that are most restrictive).

- Treatments of Pysonex™ herbicide + MSMA should be made only as a post-directed application using two nozzles per row set to provide complete coverage of the weeds while avoiding application over the top or to the growing point of the cotton plant.
- The use of gauge wheels or shielded sprayer equipment is recommended to prevent application of Pysonex™ herbicide + MSMA over the top of cotton.
- Certain weeds such as black and hairy nightshade, palmer amaranth, and wright groundcherry have shown antagonism (reduced weed control) from tank mixtures of Pysonex™ herbicide plus MSMA.

Sicklepod and Yellow nutsedge: Pysonex™ herbicide will provide partial control (growth suppression) of sicklepod and yellow nutsedge when applied alone at the sizes indicated. For best results, Pysonex™ herbicide should be applied as a post-directed application in combination with MSMA at 2 2/3 pints / A (2 lbs ai/A at 6 lbs ai /gal). Applications of Pysonex™ herbicide + MSMA to sicklepod larger than 2 inches or yellow nutsedge larger than 4 inches will only provide partial control (growth suppression).

PYSONEX™ HERBICIDE plus "Ignite" ("LibertyLink" Cotton)

A tank mixture of Pysonex™ herbicide at 1.3 - 1.9 fluid ounces per acre plus "Ignite" (glufosinate) at 32-40 ounces per acre may be applied as a postemergence treatment in "LibertyLink" cotton. See "Ignite" label for specific postemergence recommendations for weeds, weed sizes and Ignite rates.

The addition of Pysonex™ herbicide to recommended postemergence rates of "Ignite" in "LibertyLink" cotton will provide residual CONTROL of prickly sida, pigweed (redroot, smooth), spotted spurge, velvetleaf and spurred anoda as well as SUPPRESSION of annual morningglory (cypressvine, entireleaf, ivyleaf, purple, red/scarlet, sharppod/cotton, smallflower, threelobe, wooly), lambsquarters, smartweed (ladysthumb, Pennsylvania), jimsonweed, coffee senna, palmer pigweed, lanceleaf sage, barnyardgrass, broadleaf signalgrass, goosegrass, fall panicum, giant foxtail, seedling johnsongrass, and large crabgrass. Rainfall (0.5 - 1 inch) following the postemergence application is required for residual control.

Tank mixtures of Pysonex™ herbicide plus "Ignite" must be applied broadcast in a minimum of 15 gallons of water per acre by ground and 10 gallons of water per acre by air.

Pysonex™ herbicide plus Glyphosate (Glyphosate Tolerant Cotton - including “Roundup” Ready Flex Cotton)

A tank mixture of Pysonex™ herbicide at 1.3 - 3.8 fluid ounces plus glyphosate at 24 - 32 ounces per acre may be applied as an early postemergence treatment in glyphosate tolerant cotton for improved control of hemp sesbania, morningglory (entireleaf, ivyleaf, pitted, scarlet/red), cutleaf evening primrose, prickly sida and palmer pigweed.

The addition of Pysonex™ herbicide to a glyphosate only program will provide residual CONTROL of prickly sida, pigweed (redroot, smooth), spotted spurge, velvetleaf and spurred anoda and SUPPRESSION of annual morningglory (cypressvine, entireleaf, ivyleaf, pitted, purple, red/scarlett, sharppod/cotton, smallflower, threelobe, wooly), lambsquarters, smartweed (ladysthumb, Pennsylvania), jimsonweed, coffee senna, palmer pigweed, lanceleaf sage, barnyardgrass, broadleaf signalgrass, goosegrass, fall panicum, giant foxtail, seedling johnsongrass and large crabgrass. Rainfall (0.5-1 inch) following the postemergence application is required for residual control.

Glyphosate rates are based on 4 pounds active ingredient per gallon formulation. For other glyphosate formulations, rates should be adjusted proportionally to the active ingredient content of the formulation.

Pysonex™ herbicide plus glyphosate may be applied postemergence (over-the-top) to glyphosate tolerant cotton through the 4th true leaf stage of growth (when 5th true leaf is the size of a quarter or less).

Pysonex™ herbicide plus glyphosate may be applied using precision post-directed or hooded sprayers to glyphosate tolerant cotton through layby. When making post-directed applications, be especially careful to minimize contact of the spray with cotton leaves. Any single application should not exceed 3.8 fluid ounces of Pysonex™ herbicide or 32 ounces of glyphosate. No more than two post-directed applications may be made from the fifth leaf stage through layby. Do not exceed a seasonal total of 5.1 fluid ounces of Pysonex™ herbicide per acre. All applications must be 10 days apart and cotton must have at least two nodes of incremental growth between applications.

For Pysonex™ herbicide plus glyphosate applications over the top of “Roundup” Ready Flex cotton after the fourth leaf, use only glyphosate formulations that are labelled for over the top applications on “Roundup” Ready Flex cotton. Pysonex™ herbicide plus glyphosate may be applied postemergence (over-the-top) to “Roundup” Ready Flex cotton until 60 days before harvest. Pysonex™ herbicide plus glyphosate may also be applied using post-directed or hooded sprayers to “Roundup” Ready Flex cotton. When making post-directed applications to “Roundup” Ready Flex cotton, it is no longer necessary to minimize contact of the spray with cotton leaves. Emphasis should be placed on obtaining maximum contact with weed foliage. Any single application should not exceed 3.8 fluid ounces of Pysonex™ herbicide or 32 ounces of glyphosate. When sequential applications of Pysonex™ herbicide are applied, do not exceed a seasonal total of 5.1 fluid ounces of Pysonex™ herbicide per acre.

Under hard water conditions, always add an appropriate rate of either a spray grade ammonium sulfate (AMS) or a water conditioner (such as Helena’s “Quest” or Loveland’s “Choice”) to the spray water prior to adding the glyphosate.

Refer to the glyphosate formulation label for further application information and use restrictions. Follow the label guidelines that are the most restrictive.

Note: No antagonism has been observed to annual grass species from this tank mixture.

Reduced Rate Sequential Applications (Glyphosate Tolerant Cotton)

Two applications of Pysonex™ herbicide at 0.8 - 1.3 fluid ounces per acre plus glyphosate at 16 - 32 ounces per acre (4 pounds active ingredient per gallon formulation) are required for the control of the weeds listed in the Weeds Controlled section of this label. Use the higher rates for adverse growing conditions, heavy weed infestations, or if additional residual control is desired.

Applications should be made postemergence (over-the-top) to glyphosate tolerant cotton from the cotyledon stage until the four leaf (node) stage of cotton development (until the fifth leaf stage reaches the size of a quarter). After the four leaf stage of growth through layby, apply the Pysonex™ herbicide plus glyphosate tank mix as a post-directed application. For best results, the initial application should be made while weeds are small and actively growing. The applications must be made at least 10 days apart.

Refer to the label of the glyphosate formulation being used for any adjuvant recommendations.

Do not exceed a total of 4 quarts of glyphosate (4 pounds per gallon formulation) per acre per season of in-crop use.

ARIZONA ONLY

A tank mix of Pysonex™ herbicide at 1.7 - 3.8 fluid ounces per acre plus “Roundup” UltraMax 5L at 26 ounces per acre or “Roundup” WeatherMax at 22 fluid ounces per acre may be applied as a postemergence (over-the-top) treatment in glyphosate tolerant cotton for improved weed control of groundcherry, morningglory, pigweed, puncturevine, purslane and nutsedge. Apply uniformly by ground application in a minimum of 5 - 20 gallons of water per acre.

Salvage Treatments (Glyphosate Tolerant Cotton)

Where weeds threaten to cause loss of the crop, Pysonex™ herbicide may be applied from cotyledon stage through layby at 1.7 - 3.8 fluid ounces per acre plus “Roundup” Ultra Max 5L up to 40 ounces per acre or “Roundup” WeatherMax up to 32 ounces per acre. Apply this treatment either as an over-the-top application or as a post-directed application sprayed higher on the cotton plants and over the weeds. If at the timing of the salvage treatment the weeds are larger than specified in this label, only partial control may be achieved.

Note: Crop tolerance of “Roundup” Ready cotton has not been fully tested at this application rate. Salvage treatments are expected to result in significant boll loss, delayed maturity and/or yield loss and are the sole responsibility of the grower. No more than two salvage treatments should be used per growing season.

Do not exceed a total of 4 pounds of glyphosate ai per acre per season of in-crop use.

ROTATIONAL CROP RESTRICTIONS

These crops may be planted after treatment with Pysonex™ herbicide:

CROP†	INTERVAL (MONTHS)
Cotton*	Anytime
Winter/spring, wheat	4
Peanuts	10
Rice	9
Soybeans	10
Corn, field #	9
Corn, field ##	10
Corn, field IR (imidazilinone resistant)	9
Sorghum, grain	‡
Tobacco (transplant)	10
All other crops**	Field Bioassay
Arizona only - (all crops listed in the main table above plus)	
Field corn, grain sorghum	10
Watermelon, cantaloupe	10

Note: When rotating to either cantaloupe or watermelon in the spring season following cotton, use only a single application of Pysonex™ herbicide at no more than 3.8 fluid ounces per acre.

Note: Where "drip irrigated" cotton is grown, rotate only to cotton.

Southeast US Only - (GA, NC, N.FL, SC, S.AL)

(all crops listed in the main table above plus)

Cabbage	12
Cantaloupe	12
Carrots	12
Collards	12
English Pea	12
Mustard (greens)	12
Onions	++
Peppers	12
Snap bean	12
Squash	12
Sweet Corn	12
Sweet Potato	12
Tomato	12
Turnips	12
Watermelon	12

++ Do not rotate to Onions in the fall or spring crop season following a Pysonex™ herbicide application.

* If initial seeding fails to produce a stand, cotton may be replanted into the treated area. Wherever possible, avoid disturbing original bed. If necessary to rework soil before replanting, use shallow cultivation. Do not rebed nor move soil into the original drill area.

Note: New Mexico and W. Texas (broadly defined as west of highway 83) - On sand or loamy sand soils with less than 1% OM replant cotton outside the original treated band.

- ** A minimum rotational interval of 10 months is required for all crops not listed above. Field bioassay results may require that this interval be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production the following year. The test strip should cross the entire field including knolls and low areas.
- † In AZ, KS, NM, OK, and TX the rotational crops listed may be planted at the indicated intervals provided the fields are deep plowed prior to planting the rotational crop.
- # Field corn, corn grown for grain or silage, may be planted at the indicated interval provided Pysonex™ herbicide is applied on a band (not to exceed 50% of the row width) and the fields have had a thorough soil mixing, for example, two diskings or a deep plowing, prior to planting. Otherwise, do not rotate to field corn in the season following a Pysonex™ herbicide application.
Note: New Mexico and W. Texas (broadly defined as West of Highway 83) do not rotate to field corn the season following a Pysonex™ herbicide application.
- ## Limited Geography--Field corn grown for grain or silage, only in the States of AL, AR, FL, GA, LA, MO, MS, NC, SC, TN, and VA, may be planted at the indicated interval provided all the Pysonex™ herbicide applications made in cotton do not exceed a total of 3.8 fluid ounces broadcast per acre per season. No additional soil mixing (disking or plowing) will be required beyond that which is normally done with the various production systems, e.g. conventional tillage, minimum till, no-till, ridge till, etc.
- ‡ Do not rotate to grain sorghum in the season following a Pysonex™ herbicide application.
 For Southeast Texas, in an area broadly defined as east of route I-35 and south of route US 90, to include Uvalde, Medina and Bexar counties, grain sorghum may be planted after a 10 month interval provided that in the above outlined area has received a minimum of 25 inches of rainfall following a Pysonex™ herbicide application and the fields have had a thorough soil mixing, for example two diskings or a deep plowing prior to planting.
 For the Rio Grande Valley of Texas, do not rotate to corn or grain sorghum in the fall crop season following a Pysonex™ herbicide application.

REPLANTING TO COTTON

If initial seeding fails to produce a stand, cotton may be replanted in soil treated preemergence with Pysonex™ herbicide. Whenever possible avoid disturbing the original seedbed. If it proves necessary to rework the soil before replanting, use shallow cultivation. Do not relist nor move soil into the original drill area. Plant cotton seed at least 1 inch deep. Do not retreat field with a second preemergence application of Pysonex™ herbicide during the same year as injury may result. For tank mix applications, see the respective combination product label for further replanting information. Follow the label guidelines that are the most restrictive.
Note: In New Mexico and W. Texas (broadly defined as West Highway 83) on sand or loamy sand soil types with less than 1% OM, replant outside the original treated band.

COTTON CROP FAILURE

In the event of a cotton crop failure where seasonal constraints do not allow replanting to cotton, pyriithobac sodium tolerant soybeans, such as “STS” soybeans may be used as a replant crop. Pyriithobac sodium tolerant soybeans may be planted 30 days following the last Pysonex™ herbicide application to the failed cotton crop.

Where other herbicides have been used with or in conjunction with Pysonex™ herbicide, refer to the other herbicide label(s) for any information or restrictions prior to replanting with “STS” soybeans.

ADDITIONAL USE PRECAUTIONS

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

- Do not apply, drain or flush 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.

Injury to or loss of adjacent sensitive crops and vegetation may result from failure to observe the following:

- Avoid all direct or indirect (such as spray drift) contact with crops other than cotton.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than cotton.

SPRAYER PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using Pysonex™ herbicide. Follow the clean up procedures specified on the label of the product(s) previously used. If no clean up procedure is provided, follow this clean up procedure for all application equipment before using Pysonex™ herbicide:

1. Thoroughly rinse sprayer, tanks, boom and hoses with clean water.
2. Partially fill tank with water and add ammonia (1 gal. of ammonia per 100 gal. of tank volume) or a tank cleaner. Complete filling the tank and flush the cleaning solution through the boom hoses. Let solution stand for 15 minutes while agitating/recirculating, and then drain the tank by flushing the hoses, booms and nozzles.
3. Thoroughly rinse the sprayer, tanks, boom and hoses with clean water.
4. Follow label directions on product(s) previously sprayed for disposal.

Mix the proper amount of Pysonex™ herbicide into the necessary volume of water in the spray tank with the agitator running. Continuous agitation is required for a uniform suspension and application. Pysonex™ herbicide must be added first to the spray tank followed by tank mix partner, if used, then the adjuvant.

Use spray preparation of Pysonex™ herbicide and approved adjuvant within 7 days or product degradation may occur. If spray preparation is left standing without agitation, thoroughly agitate before using.

PRECAUTION: Do not use chlorine bleach with ammonia. See Sprayer Clean Up Section for more information.

SPRAYER CLEAN UP

Spray equipment must be clean and free of previous pesticide deposits before applying Pysonex™ herbicide and properly cleaned out after applying Pysonex™ herbicide. Using the clean up procedures specified on the label of the previously used product, clean all application equipment before applying Pysonex™ herbicide. If no clean up procedure is provided, use the procedure that follows. Immediately following applications of Pysonex™ herbicide thoroughly clean all mixing and spray equipment according to the following instructions:

1. Drain Tank: Thoroughly hose down the interior surfaces of the tank; then flush tank, boom and hoses with clean water for a minimum of 5 minutes. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and add one gal. of household ammonia* (3% active) for every 100 gal. of water. Flush the cleaning solution through the boom, hoses and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 minutes. Again, flush the boom, hoses and nozzles with the cleaning solution, then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.
4. Repeat step 2.
5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing the water through the hoses and boom.
6. Dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of an alternate-strength ammonia solution or Agsurf approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instruction.

PRECAUTION

Do not use chlorine bleach with ammonia when cleaning out spray tanks. All traces of liquid fertilizer containing ammonia, ammonia nitrate or ammonium sulphate must be rinsed with water from the mixing and application equipment before adding any chlorine bleach solution. Failure to do so will release a gas with a musty chlorine odor which can cause eye, nose, throat and lung irritation.

Do not clean equipment in an enclosed area.

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.

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 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.

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). 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. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. 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.

Container Refilling and Disposal (For Containers up to 250 gal): This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than Pysonex™ herbicide. Reseal and return the container to any authorized Agsurf refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-888-261-1410 day or night.

Container Disposal for Bulk Containers: When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact Agsurf at 1-888-261-1410. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-888-261-1410 day or night.

NOTICE TO BUYER: Purchase of this material does not confer any rights under patents of countries outside of the United States.

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(CALIFORNIA)

GENERAL INFORMATION

Pysonex™ herbicide may be applied postemergence (over-the-top) or post-directed to cotton and weeds by ground application equipment.

If Pysonex™ herbicide is used in a tank mixture with other herbicides, read and follow all use instructions, warnings and precautions on companion herbicide labels.

BIOLOGICAL INFORMATION

Pysonex™ herbicide is absorbed by weed foliage following postemergence application. Thorough coverage of target weed species, including the weed terminals or growing points, is required to obtain best results.

Growth of susceptible weeds is rapidly inhibited. Growing points and leaves of susceptible weeds appear yellow in 5-10 days. Death of leaf tissue and growing points will follow in some species, while others remain green but stunted and non-competitive. Susceptible weeds are controlled in 14-28 days.

Do not apply Pysonex™ herbicide on any crops other than cotton. Most crops other than cotton are sensitive to Pysonex™ herbicide. All direct and indirect contact (such as drift) to crops other than cotton or land not scheduled to be planted to cotton in the current growing season should be avoided.

RESISTANCE

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. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

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. 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.

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.

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 in your State responsible for pesticide regulation.

Agsurf will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Agsurf.

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) ≥ 14 mls.

Shoes plus socks.

APPLICATION INFORMATION

ENVIRONMENTAL CONDITIONS FOR OPTIMUM PERFORMANCE

Weather: Conditions which are conducive to healthy, actively growing weeds optimize Pysonex™ herbicide postemergence weed control performance. Ideal conditions include warm soil temperatures (70 Deg. F or more) and adequate soil moisture before, during and immediately after application.

Rainfastness: Rainfall immediately after treatment may wash Pysonex™ herbicide off the weed foliage and result in reduced weed control. A minimum of 4 hours is needed to allow Pysonex™ herbicide to be absorbed by weed foliage.

SPRAY VOLUMES

Ground Application - Apply uniformly by ground with a properly calibrated low pressure (20-40 psi) stabilized boom equipped with either Even flat fan, "Twinjet", or under leaf banding nozzles. Use 10-40 GPA with ground spray equipment.

SEQUENTIAL APPLICATIONS

Annual broadleaf weeds may have more than one flush of emerging seedlings. Also, regrowth of treated annual weeds may occur due to application being made to weeds under stress from adverse growing conditions. To control weeds under these conditions, a sequential application of Pysonex™ herbicide may be necessary.

If a respray of treated annual weeds is necessary, allow the weeds to begin to regrow prior to making a second application of Pysonex™ herbicide.

When using Pysonex™ herbicide in sequential treatment program, allow a minimum of 7 days between applications.

GENERAL USE PRECAUTIONS

- Do not exceed 3.8 fl oz/A in a single postemergence application.
- Do not exceed 5.1 fl oz per acre per year.
- Do not apply this product through any type of irrigation system.
- Do not apply to irrigated land where tail water will be used to irrigate crops other than cotton.
- Do not apply within 60 days of harvest.

TANK MIX PRECAUTIONS

This product can be mixed with pesticide products labeled for use on cotton in accordance with the most restrictive of label limitations. Read all label precautions for tank mix partners prior to use. Follow all manufacturers label recommendations for the companion product. If these recommendations conflict with this label, do not tank mix with Pysonex™ herbicide.

Since formulations may be changed and new ones introduced, it is recommended that users premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures.

Do not tank mix Pysonex™ herbicide with metolachlor herbicides (such as "Dual Magnum") as a postemergence treatment over the top of cotton as crop injury may result.

Do not tank mix Pysonex™ herbicide with malathion-containing insecticides (such as "Cythion" RTU or "Cythion" ULV) as crop injury may result. To avoid crop injury, apply malathion-containing insecticides at least 24 hours before or after application of Pysonex™ herbicide.

PIMA COTTON PRECAUTIONS

Foliar injury to Pima cotton varieties from postemergence applications of Pysonex™ herbicide can be more severe than that occasionally observed on upland cotton varieties (see NOTE: under POSTEMERGENCE BAND USE section of label). Any of the plant stress conditions mentioned in the POSTEMERGENCE BAND USE Note paragraph may further increase the severity of the injury to Pima varieties.

Consequently, Agsurf is not responsible for any crop injury arising from the use of Pysonex™ herbicide on Pima cotton varieties.

POSTEMERGENCE BAND USE

Application should be made by ground equipment only. Apply Pysonex™ herbicide as a postemergence band (over-the-top) or as a post-directed band spray over the cotton seed row at 8 - 10 inches wide (not to exceed 10 inches in width). Applications may be made over the top when cotton is at the first visible true leaf stage through 6 inches in height, or post-directed when cotton is up to 10 inches in height. Weeds should be young and actively growing. The degree of control and duration of effect are dependent on the sensitivity and size of the target weed, coverage, rate of Pysonex™ herbicide applied and the environmental conditions at the time of and following application. Regrowth of susceptible weeds may occur if these conditions are not met. Application should be made to the same number of rows as planted to avoid row width variations.

Postemergence applications should be made to young, actively growing weeds. Control may be reduced if application is made following a cultivation, i.e., dirt clods blocking the spray, dust covered weeds, weeds injured by cultivation equipment, or to weeds under stress due to severe environmental conditions such as drought, excessive soil moisture or cool soil or air temperatures (60° F or less).

Foliar absorption is the primary means of uptake from postemergence applications of Pysonex™ herbicide. Therefore, select a spray volume, delivery system and uniform spray pattern that will insure thorough coverage of the target weed species (including the growing point) to obtain best results. Increase spray volume as weed density and size increases. Avoid overlapping, and shut off spray booms while starting, turning, slowing or stopping, or injury to the crop may result.

- Do not cultivate within 5 days after application.
- After a minimum of 5 days after application, a cultivation that moves soil to the crop and covers small treated weeds can improve efficacy.
- Do not sprinkler irrigate cotton within 48 hours after application.

Note: Pysonex™ herbicide may cause temporary leaf yellowing, bronzing and/or leaf crinkling when applied as a postemergence application. Plant stresses from seedling diseases, insects, e.g., thrips injury, blowing sand (sand blasting), hail injury, cool soil or air temperatures (60° F or less), extreme temperature variations and lack of or excessive soil moisture just prior to or soon after treatment may increase the sensitivity of cotton to injury from Pysonex™ herbicide treatments.

To reduce the potential for increased cotton sensitivity, allow cotton plants to recover from stress conditions prior to postemergence applications of Pysonex™ herbicide.

APPLICATION RATES

Apply Pysonex™ herbicide at 2.6 - 3.8 fl oz product per acre as a single application. Use the higher rates of Pysonex™ herbicide to aid control under arid growing conditions or where weed infestations are severe.

All rates are broadcast. Use proportionately less for band applications.

SPRAY ADDITIVES

Add a nonionic surfactant, cleared for application to growing crops, at the rate of 0.25 - 0.5% V / V with all postemergence applications.

TIMING

Pysonex™ herbicide may be used as a postemergence application to young, actively growing weeds.

WEEDS CONTROLLED

Common Name	Scientific Name	Height or Diameter (inches)
Cocklebur, common	<i>Xanthium strumarium</i>	1-4
Goosefoot, nettleleaf	<i>Chenopodium murale</i>	1-2
Nightshade		
black	<i>Solanum nigrum</i>	1-2
hairy	<i>Solanum sarrachoides</i>	1-2
Knotweed, silversheath	<i>Polygonum argyrocoleon</i>	1-2
Mustard, black	<i>Brassica nigrum</i>	1-2
Pigweed		
palmer	<i>Amaranthus palmeri</i>	1-2
redroot	<i>Amaranthus retroflexus</i>	1-2
smooth	<i>Amaranthus hybridus</i>	1-2
spiny	<i>Amaranthus spinosus</i>	1-2
Rocket, London	<i>Sisymbrium irio</i>	1-2
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	1-2
Sunflower		
common	<i>Helianthus annuus</i>	1-4
Velvetleaf	<i>Abutilon theophrasti</i>	1-4
Watermelon (volunteer)	<i>Citrullus vulgaris</i>	1-2

WEEDS SUPPRESSED

Height or

Common Name	Scientific Name	Height or Diameter (inches)
Groundcherry, wright	<i>Physalis wrightii</i>	1-2
Morningglory, *		
entireleaf	<i>Ipomoea hederacea</i>	1-4
ivyleaf	<i>Ipomoea hederacea</i>	1-4
Puncturevine	<i>Tribulus terrestris</i>	1-2
Purslane, common	<i>Portulaca oleracea</i>	1-3

* To aid control under arid growing conditions Pysonex™ herbicide may be applied in a single application at up to 3.8 fl oz per acre. Include a nonionic surfactant at 0.5% V/V or crop oil concentrate at 1% V/V.

For best activity, treat at the one to two leaf stage of weed growth.

TANK MIXTURES

Pysonex™ herbicide plus MSMA

Pysonex™ herbicide may be tank mixed with MSMA and applied POST-DIRECTED for improved control of certain broadleaf weeds and suppression of sedges. Refer to MSMA label for information on weeds, weed sizes, application conditions and use restrictions (follow label guidelines that are most restrictive).

Note: Certain weeds such as black and hairy nightshade, and wright groundcherry have shown antagonism (reduced weed control) from tank mixtures of Pysonex™ herbicide plus MSMA.

Pysonex™ herbicide plus Post Grass Herbicides

Tank mixes of Pysonex™ herbicide with post grass herbicides can result in antagonism and partial control of grasses. To avoid poor grass control apply post grass herbicides at least 3 days prior to the application of Pysonex™ herbicide.

ROTATIONAL CROP RESTRICTIONS

The rotational crops listed may be planted at the indicated intervals provided the fields are double disked or deep plowed prior to planting. These crops may be planted after treatment with Pysonex™ herbicide:

CROP	INTERVAL (MONTHS)
Cotton*	Anytime
Tomatoes	8
Wheat	6
All other crops**	Field Bioassay

* If initial seeding fails to produce a stand, cotton may be replanted into the treated area. Wherever possible, avoid disturbing original bed. If necessary to rework soil before replanting, use shallow cultivation. Do not rebed nor move soil into the original drill area.
Note: Where "drip irrigated" cotton is grown, rotate only to cotton.

** A minimum rotational interval of 10 months is required for all crops not listed above. Field bioassay results may require that this interval be extended. A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production the following year. The test strip should cross the entire field including knolls and low areas.

Note: Shortening of the rotational intervals listed under the Rotational Crop Restrictions may result in crop injury.

ADDITIONAL USE INFORMATION

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

- Do not apply, drain or flush 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.

Injury to or loss of adjacent sensitive crops and vegetation may result from failure to observe the following:

- Avoid all direct or indirect (such as spray drift) contact with crops other than cotton.
- Carefully observe all sprayer cleanup instructions both prior to and after using this product, as spray tank residue may damage crops other than cotton.

SPRAYER PREPARATION

It is important that spray equipment is clean and free of existing pesticide deposits before using Pysonex™ herbicide. Follow the clean up procedures specified on the label of the product(s) previously used. If no clean up procedure is provided, follow this clean up procedure for all application equipment before using Pysonex™ herbicide:

1. Thoroughly rinse sprayer, tanks, boom and hoses with clean water.
2. Partially fill tank with water and add ammonia (1 gal. of ammonia per 100 gal. of tank volume) or a tank cleaner. Complete filling the tank and flush the cleaning solution through the boom hoses. Let solution stand for 15 minutes while agitating/recirculating, and then drain the tank by flushing the hoses, booms and nozzles.
3. Thoroughly rinse the sprayer, tanks, boom and hoses with clean water.
4. Follow label directions on product(s) previously sprayed for disposal.

Mix the proper amount of Pysonex™ herbicide into the necessary volume of water in the spray tank with the agitator running. Continuous agitation is required for a uniform suspension and application. Pysonex™ herbicide must be added first to the spray tank followed by tank mix partner, if used, then the adjuvant.

Use spray preparation of Pysonex™ herbicide and approved adjuvant within 7 days or product degradation may occur. If spray preparation is left standing without agitation, thoroughly agitate before using.

PRECAUTION: Do not use chlorine bleach with ammonia. See Sprayer Clean Up Section for more information.

SPRAYER CLEAN UP

Spray equipment must be clean and free of previous pesticide deposits before applying Pysonex™ herbicide and properly cleaned out after applying Pysonex™ herbicide. Using the clean up procedures specified on the label of the previously used product, clean all application equipment before applying Pysonex™ herbicide. If no clean up procedure is provided, use the procedure that follows. Immediately following applications of Pysonex™ herbicide thoroughly clean all mixing and spray equipment according to the following instructions:

1. Drain Tank: Thoroughly hose down the interior surfaces of the tank; then flush tank, boom and hoses with clean water for a minimum of 5 minutes. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and add one gal. of household ammonia* (3% active) for every 100 gal. of water. Flush the cleaning solution through the boom, hoses and nozzles. Add more water to completely fill the tank and allow to agitate/recirculate for at least 15 minutes. Again, flush the boom, hoses and nozzles with the cleaning solution, then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing the cleaning agent and water.
4. Repeat step 2.
5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing the water through the hoses and boom.
6. Dispose of the rinsate on site or at an approved waste disposal facility.

* Equivalent amounts of an alternate-strength ammonia solution or Agsurf approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instruction.

PRECAUTION

Do not use chlorine bleach with ammonia when cleaning out spray tanks. All traces of liquid fertilizer containing ammonia, ammonia nitrate or ammonium sulphate must be rinsed with water from the mixing and application equipment before adding any chlorine bleach solution. Failure to do so will release a gas with a musty chlorine odor which can cause eye, nose, throat and lung irritation.

Do not clean equipment in an enclosed area.

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.

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.

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.

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). 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. **For Metal Containers (non aerosol):** Triple rinse (or equivalent) the container. 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.

Container Refilling and Disposal (For Containers up to 250 gal): This is a refillable container. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than Pysonex™ herbicide. Reseal and return the container to any authorized Agsurf refilling facility. If the container is not to be refilled, triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-888-261-1410 day or night.

Container Disposal for Bulk Containers: When this container is empty, replace the cap and seal all openings that have been opened during use, and return the container to the point of purchase or to a designated location named at time of purchase of this product. The container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, contact Agsurf at 1-888-261-1410. If not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-888-261-1410 day or night.

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Agsurf warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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