

Willowood

SULFEN CHLORIM

Active Ingredients:	By Weight
Sulfentrazone*	62.22%
Chlorimuron-Ethyl*	7.78%
Other Ingredients:	30.00%
TOTAL:	100.00%

*Willowood Sulfen Chlorim contains 0.7 lb. of active ingredient per pound of product (0.62 lb. a.i./lb. of sulfentrazone and 0.08 lb. a.i./lb. of chlorimuron-ethyl).

KEEP OUT OF REACH OF CHILDREN

CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

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 a poison control center or doctor. Do not give anything to an unconscious person. **If in Eyes:** Hold eye open and rinse slowly and gently with water for 15 to 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 Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice. **If on Skin or Clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

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

HOTLINE NUMBERS

For 24-Hour Medical Emergency Assistance (Human or Animal), call: **1-800-222-1222**. For Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), call CHEMTREC: **1-800-424-9300**.

See label booklet for complete Precautionary Statements, Directions For Use, and Storage and Disposal.

Manufactured For:
Willowood, LLC
1887 Whitney Mesa Drive #9740
Henderson, NV 89014-2069

EPA Reg. No.: 87290-83

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Protective eyewear
- Waterproof gloves
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROL STATEMENTS

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

PHYSICAL/CHEMICAL HAZARDS

Do not use or store near open flame. Do not mix or allow coming in contact with oxidizing agent. Hazardous Chemical reaction may occur.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly with soap and water after handling before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling the product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift. For further guidance and instructions on how to minimize spray drift, refer to the **SPRAY DRIFT ADVISORIES** section of this label.

WINDBLOWN SOIL PARTICLES: **Willowood Sulfen Chlorim** has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter content. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying **Willowood Sulfen Chlorim** if prevailing local conditions may be expected to result in off-site movement.

Groundwater Advisory: Chlorimuron-ethyl is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Do not use this product on sandy soil types that have <1% organic matter.

Surface Water Advisory: Sulfentrazone can contaminate surface water through spray drift. Under some conditions, sulfentrazone may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlying tile drainage systems that drain to surface waters.

Chlorimuron-ethyl may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of chlorimuron-ethyl from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

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 12 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 over long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

PRODUCT INFORMATION

Willowood Sulfen Chlorim is a water dispersible granule herbicide formulation for selective pre-emergence and pre-plant incorporated weed control in soybeans. This product may only be used to control broadleaf weeds and annual grasses in soybeans. When this product is applied according to the directions on this label, it will control many broadleaf weeds and provide partial control of annual grass weeds.

Pre-emergence and pre-plant incorporated applications of rainfall or sprinkler irrigation to activate the herbicide. The **Willowood Sulfen Chlorim** require level of control and duration of effect are dependent upon use rate, weed spectrum, growing conditions at and following application, soil pH, texture, organic matter, moisture and precipitation.

WEED RESISTANCE MANAGEMENT

Willowood Sulfen Chlorim contains two active ingredients with two different modes of action. Chlorimuron-ethyl is classified as a Group 2 herbicide, Acetolactate Synthase (ALS) or Acetohydroxy Acid Synthase (AHAS) inhibitor. It also contains sulfentrazone, classified as a Group 14 herbicide, inhibitor of Protoporphyrinogen oxidase (Protox, PPO).

Herbicide resistance is defined as the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type. In a plant, resistance may be naturally occurring or induced by such techniques as genetic engineering or selection of variants produced by tissue culture or mutagenesis. Any weed population may contain or develop plants that are naturally resistant to **Willowood Sulfen Chlorim** and other Group 2 or Group 14 herbicides. Weed species with acquired resistance to Group 2 and Group 14 herbicides may eventually dominate the weed population if Group 2 or Group 14 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by **Willowood Sulfen Chlorim** or other Group 2 and Group 14 herbicides.

Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed. If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.

To delay herbicide resistance, consider:

- Avoiding the consecutive use of **Willowood Sulfen Chlorim** or other target site of action Group 2 and Group 14 herbicides that have a similar target site of action, on the same weed species.
- Using tank mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action, and are both effective at the tank mix or prepack rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated weed populations for loss of field efficacy.

Users should scout before and after application. Users should report lack of performance to registrant or their representative.

Contact your local sales representative, extension agent, or certified crop advisors to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

INTEGRATED PEST MANAGEMENT

Integrate **Willowood Sulfen Chlorim** into an overall weed management strategy whenever the use of an herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

SPRAY DRIFT

Aerial Applications:

- Aerial application is allowed only when environmental conditions prohibit ground application.
- For aerial applications, the maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a coarse or coarser droplet size (ASABE* S572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Nozzles must be oriented so the spray is directed toward the back of the aircraft.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Ground Boom Applications:

- Ground applicators must use a minimum finished spray volume of 10 gallons per acre.
- When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.
- Apply with the nozzle height recommended by the manufacturer, but no more than 3 feet above the ground or crop canopy unless making a turf, pasture, or rangeland application, in which case applicators may apply with a nozzle height no more than 4 feet above the ground.
- For applications prior to the emergence of crops and target weeds, applicators are required to use a coarse or coarser droplet size (ASABE S572.1).
- For all other applications, applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

Boom-less Ground Applications:

- Applicators are required to use a medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

*ASABE – American Society for Agricultural and Biological Engineers

SPRAY DRIFT ADVISORIES

- Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE Standard S-572.
- Select coarse to very coarse droplet size when sulfentrazone is used as a pre-emergent/pre-plant application.
- Select medium to very coarse droplet size when sulfentrazone is used post-emergence with a contact burndown herbicide.
- Applicators may spray only when wind speed is between 3 and 10 mph.
- Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).

Boom-less Ground Applications:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

Handheld Technology Applications:

- Take precautions to minimize spray drift.

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.

Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.

Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

Controlling Droplet Size – Aircraft

Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

BOOM HEIGHT – Ground Boom

Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.

RELEASE HEIGHT – Aircraft

Higher release heights increase the potential for spray drift. When applying aurally to crops, do not release spray at a height greater than 10 ft. above the crop canopy, unless a greater application height is necessary for pilot safety.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

BIOLOGICAL ACTIVITY

Willowood Sulfen Chlorim quickly inhibits the growth of susceptible weeds. After application of pre-plant incorporation or pre-emergence treatment, susceptible weeds may germinate and emerge, but growth then stops and leaves become yellow 3-5 days after emergence. Death of leaf tissue and growing point will follow in some species while others will remain green but stunted and noncompetitive. **Willowood Sulfen Chlorim** will provide partial control of some annual grass weeds when used pre-plant or pre-emergence but other products may be needed to ensure adequate grass control.

Poor growing conditions (for example: excessive moisture, cool temperatures, and soil compaction or the presence of various pathogens) may impact seedling vigor. Under these conditions the active ingredients in **Willowood Sulfen Chlorim**, like other soil-applied herbicides, may result in soybean injury.

Best results are obtained if application of **Willowood Sulfen Chlorim** is followed by rainfall or irrigation prior to weed germination. Several small rainfalls of less than ¼” each are not as beneficial as one large rainfall of ½ - 1”. If moisture is insufficient to activate the product, a rotary hoeing or shallow cultivation should be made after emergence of the crop while weeds are small enough to be controlled by mechanical means.

APPLICATION INSTRUCTIONS

Use Precautions:

- Injury to or loss of desirable trees or vegetation may result from failure to observe the following:
 - o Do not make application or 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.
 - o Do not use on lawns, walks, driveways, tennis courts or similar areas.
 - o Prevent drift of spray to desirable plants.
 - o Keep from contact with fertilizers, insecticides, fungicides and seeds during storage.

Use Restrictions:

- Do not contaminate any body of water.
- Do not apply this product through any type of irrigation system.
- Do not use flood irrigation to apply or incorporate this product.
- Product must be used in a manner which will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

Before using **Willowood Sulfen Chlorim**, consideration should be given to crop rotation plans. Crops other than soybeans may be extremely sensitive to low concentrations of **Willowood Sulfen Chlorim** remaining in the soil during the next planting season. Choice of rotation crop is restricted after application of **Willowood Sulfen Chlorim**. (Refer to the “**ROTATIONAL CROP GUIDELINES**” for your geographical region.)

Thoroughly clean and rinse **Willowood Sulfen Chlorim** from application equipment immediately after use and before spraying crops other than soybeans. Failure to remove even small amounts of **Willowood Sulfen Chlorim** from application equipment may result in injury to crops that are sprayed subsequently.

Proper Handling Instructions: This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pads or properly diked mixing/loading areas.

Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

ROTATIONAL CROP GUIDELINES

When used as directed, the table below describes the minimum crop intervals from the time of **Willowood Sulfen Chlorim** application until soil treated with **Willowood Sulfen Chlorim** can be planted to the crops listed. Cover crops for soil health and erosion control can be planted at any time following an application of **Willowood Sulfen Chlorim**, but do not use for food or feed. Residual activity of **Willowood Sulfen Chlorim** may result in injury to some cover crop species if planted too soon after application. Consult your local University extension service for cover crop sensitivity to **Willowood Sulfen Chlorim**. When a recommended tank mix is used, consult the tank mix partner labels for re-cropping instructions and follow the directions that are most restrictive.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

ROTATIONAL GUIDELINES

For Full Use* Rates – (Refer to Rate Table 1)

See **Importance of Soil pH** for additional information.

CROP	INTERVAL (Months)	
	Rotation Interval A IN, OH, MO, IL, KS, NE, OK <i>Soil pH less than 7.2</i> (If soil pH is greater than 7.2 use Rotation Interval B)	Rotation Interval B AL, AR, GA, KY, LA, MI, MS, MO Bootheel, NC, PA, SC, TN, TX <i>Soil pH greater than 6.8</i> (For those states listed above, if soil pH is less than 6.8 use Rotation Interval A)
Barley, Rye, Wheat	4	4
Corn (Field ¹)	10	18
Soybeans ²	Anytime	Anytime
Rice, Tobacco	10	18
Sorghum**	18 or 10	18
Alfalfa, Beans (Dry), Oats, Tomato (Transplant)	12	18
Cabbage, Clover, Corn (Sweet), Cotton, Cucumber, Flax, Lentils, Mustard, Peanuts, Pumpkin, Sunflower, Watermelon	18	18
Canola (Rapeseed), Carrot, Onion, Potato, Sugar Beets, and Any other crop not listed	36	36

*Do not use full use rates in the following states: DE, IA, MD, MI, MN, NJ, VA, WI, and WV. See the **Reduced Use Rates** table below.

Sorghum may be planted after 10 months where **Willowood Sulfen Chlorim was applied at rates 6.4 oz./acre or less.

¹ Field corn includes corn grown for grain, silage, popcorn, seed corn.

² Do not feed treated soybean forage or soybean hay to livestock.

Rotational intervals that are greater than 12 months following an application of **Willowood Sulfen Chlorim** are the result of crop injury concerns for the specified crop. The crops should be planted only after the listed time and with a successful bioassay.

ROTATIONAL GUIDELINES

For **Reduced Use Rates** – (Refer to Rate Table 2)

See **Importance of Soil pH** for additional information.

CROP	INTERVAL (Months)	
	Rotation Interval A* All States, all pH's except those listed in column B	Rotation Interval B DE, IA, MD, MI, MN, NJ, VA, WI, WV Soil pH greater than 6.8
Corn (Field ¹)	10	18
Soybeans ²	Anytime	Anytime
Barley, Rye, Wheat	4	4
Rice, Tobacco	10	18
Sorghum**	10	18
Alfalfa, Beans (Dry), Oats, Peanuts, Tomato (Transplant)	12	18
Cotton ³	18	18
Cabbage, Clover, Corn (Sweet), Cucumber, Flax, Lentils, Mustard, Pumpkin, Sunflower, Watermelon	18	18
Canola (Rapeseed), Carrot, Onion, Potato, Sugar Beets, and Any other crop not listed	36	36

*A pre-emergent application of a product containing chlorimuron-ethyl is not allowed in the states of AL, AR, GA, KY, LA, MO Bootheel, MS, NC, OK, SC, TN and TX where soil pH is greater than 7.0.

Sorghum may be planted after 10 months where **Willowood Sulfen Chlorim was applied at rates 6.4 oz./acre or less.

¹ Field corn includes corn grown for grain, silage, popcorn, seed corn.

² Do not feed treated soybean forage or soybean hay to livestock.

³ Cotton may be planted after 12 months where **Willowood Sulfen Chlorim** was applied at rates of 5 oz./acre or less and meets the following conditions:

- Medium and fine soils
- pH <7.2
- Rainfall or irrigation must exceed 15" after application of **Willowood Sulfen Chlorim** to rotate to cotton.

Rotational intervals that are greater than 12 months following an application of **Willowood Sulfen Chlorim** are the result of crop injury concerns for the specified crop. The crops should be planted only after the listed time and with a successful bioassay.

APPLICATION INFORMATION

Ground Application

Make a uniform application using ground equipment with a properly calibrated sprayer that is equipped with fan-type nozzles or other appropriate nozzles. Adjust spray pressures to recommendations that are appropriate for the nozzle type being used. Set sprayer and spray nozzles so to minimize the risk of fine droplets (<150 microns), but also to achieve adequate coverage of existing weeds. Use nozzles that require screens that are no finer than 50 mesh. Use 10 to 40 gals. of water per acre. Continuous agitation in the spray tank is required to keep the product in suspension. Avoid overlap and shut off spray booms while starting, turning, slowing or stopping, as injury to the crop may occur.

Aerial Application

Aerial application is only allowed when environmental conditions prohibit ground application. Application of **Willowood Sulfen Chlorim** may be made by air using properly calibrated nozzle types and arrangements to provide optimum coverage while producing minimal amounts of fine droplets. Make application in sufficient spray volume to achieve adequate coverage. Apply a minimum of five (5) gallons of finished spray per acre. Do not make application when wind speed favors drift beyond the area intended for treatment. The maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.

SPRAY TANK PREPARATION

Sprayer and equipment must be clean and free of existing pesticide deposits before using **Willowood Sulfen Chlorim**. Follow the spray tank cleanout procedures specified on the label of product previously sprayed. If no cleanout procedure is provided, follow the cleanout procedure in **SPRAY EQUIPMENT CLEAN-OUT** section of this label.

Mixing Instructions

1. Fill the tank $\frac{1}{4}$ to $\frac{1}{3}$ full of water.
2. Add the required amount of **Willowood Sulfen Chlorim** while maintaining agitation.
3. Maintain agitation and continue filling tank with water after the **Willowood Sulfen Chlorim** is fully dispersed.
4. Mix **Willowood Sulfen Chlorim** thoroughly with water in the spray tank before adding any other material. As the tank is filling add (in the following order): other herbicide(s), the required spray adjuvant, ammonium sulfate, and/or liquid nitrogen fertilizer where required.
5. To avoid product degradation, make application of **Willowood Sulfen Chlorim** spray solution within 24 hours of mixing.
6. If the mixture has settled, thoroughly reagitrate prior to use.
7. To improve mixing with liquid fertilizers, prepare a slurry in water prior to adding to spray tank.

SPRAY EQUIPMENT CLEAN-OUT

To avoid subsequent injury to desirable crops, thoroughly clean all mixing and spray equipment immediately following applications of **Willowood Sulfen Chlorim** as follows:

1. Drain spray tank; thoroughly hose down the interior surfaces; then flush tank, boom, and hoses with clean water for a minimum of 5 minutes.
2. Fill tank $\frac{1}{2}$ full of clean water and add one of the cleaning agents listed below. Complete filling the tank with water, then flush the cleaning solution through the boom, hoses, and nozzles. Add water to completely fill the tank and allow to agitate or recirculate for at least 15 minutes. Flush the boom, hoses and nozzles, again and drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing water and the cleaning agent.
4. Repeat Step 2.
5. Thoroughly rinse the tank with clean water for a minimum of 5 minutes, flushing clean water through the boom and hoses.

NOTE: Use any of the following cleaning agents. Carefully read and follow the individual cleaning agent instructions.

1. One gallon of household ammonia (contains 3% active) per 100 gallons of water.
2. Commercial spray tank cleaner

Do not drain or flush spray equipment on or near desirable trees or plants.

Do not contaminate any body of water including irrigation water that may be used on other crops.

If equipment is not cleaned properly and small quantities of **Willowood Sulfen Chlorim** remain in mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing adverse effects to certain crops and other vegetation. Willowood, LLC accepts no liability for any effects due to inadequately cleaned equipment.

PRECAUTIONS

- Back to back applications of ALS or products that contain an ALS herbicide can occasionally result in residual herbicide build-up and potential crop injury. Applicator and/or grower are responsible and must be aware of previous herbicide use and potential interaction it may have with this product application.
- On areas treated with **Willowood Sulfen Chlorim**, ensure the seed furrow is closed and the seed covered.
- Soybean stunting may result if excessive rainfall occurs after application but prior to soybean emergence. Injury is more prevalent under poor drainage or compacted soil conditions or when soil is saturated for long periods of time. Soybeans outgrow stunting once favorable conditions return.
- Do not make application of this product if there are visible signs of cracking due to soybean emergence, or serious crop injury may occur (ex. crop injury and varying stand loss).
- Seedling disease, nematodes, cold weather, deep planting (greater than 2 inches), excessive moisture, high salt concentration, or drought may weaken soybean seedlings and increase the possibility of crop injury.

RESTRICTIONS

- All direct or indirect contact (such as spray drift) to other crops or to land scheduled to be planted to crops other than soybean must be avoided.
- Do not tank mix this product with organophosphate insecticides.
- Do not make application of **Willowood Sulfen Chlorim** within 14 days before or after an application of an organophosphate insecticide, as severe crop injury may result.

IMPORTANCE OF SOIL pH

Soil pH varies greatly, even within the same field. Variations in pH as much as 2 pH units are common. Composite soil samples taken across an entire field, such as those samples taken for soil fertility recommendations, may not detect high pH areas. Taking sub-samples in areas likely to have pH values higher than the field average is suggested. The following is a list of potential high pH areas where subsampling is recommended. This list is not comprehensive. For additional information on soil-type or pH, contact your local Cooperative Extension Office.

- Sample soil types separately where different soil types are evident within a field.
- Sample areas separately where conditions vary within a field, for example:
 - areas bordered by limestone gravel roads,
 - river bottoms subject to flooding,
 - low areas in hardpan soils where evaporative ponds may occur,
 - eroded hillsides,
 - along drain tile lines, and
 - areas where drainage ditch spoil has been spread.
- Soil may exhibit significantly higher pH values in the upper 3 inches of soil where lime has not been deeply incorporated. Composite soil samples taken at a 6- to 8-inch depth may not reflect the elevated pH near the surface. In these cases, shallow sampling, within the upper 3 inches, is advised.

Determine soil pH by laboratory analysis using a 1:1 soil:water suspension.

LIST OF WEEDS CONTROLLED - PRE-EMERGE

Willowood Sulfen Chlorim controls the following weed species when applied as directed:

Beggarweed, Florida	Nutsedge, purple
Carpetweed	Nutsedge, yellow
Cocklebur*	Pigweed, Palmer amaranth
Copperleaf, Hophornbeam	Pigweed, redroot
Copperleaf, Virginia	Pigweed, smooth
Jimsonweed	Pigweed, spiny amaranth
Kochia	Poinsettia, wild
Lambsquarters	Purslane, common
Mallow, Venice	Ragweed, common
Marestail	Ragweed, giant*
Morningglory, annual	Senna, coffee
Morningglory, Entireleaf	Sida, prickly (Teaweed)
Morningglory, Ivyleaf	Smartweed (annual)
Morningglory, pitted*	Spurge, spotted
Morningglory, smallflower	Star of Bethlehem
Morningglory, tall	Sunflower, wild
Mustard, wild	Thistle, Russian
Nightshade, black	Velvetleaf
Nightshade, Eastern black	Waterhemp, common
Nightshade, hairy	Waterhemp, tall

*Weed species that can germinate deep in the soil such as pitted morningglory, cocklebur, and giant ragweed or other weeds; such as nutsedge, that may emerge at various times during the growing season may require a cultivation or a follow up application of post-emergence herbicide(s) for season-long control.

Willowood Sulfen Chlorim will provide partial control of the following weeds when used as directed:

Barnyardgrass	Mexicanweed
Burcucumber	Panicum, fall
Crabgrass	Panicum, Texas
Foxtail species	Sesbania, Hemp
Goosegrass	Sicklepod
Johnsongrass, seedling	Signalgrass, broadleaf

For additional instructions on weed control, refer to comments in Table 1.

SOYBEAN - USE DIRECTIONS

Make application of **Willowood Sulfen Chlorim** according to Rate Tables 1 or 2 as directed for specific types of application and geographic areas.

Use Restrictions:

- Do not use the full use rate (Rate Table 1) in DE, IA, MD, MI, MN, NJ, VA, WI, and WV.
- Do not use this product in CO, WY, ND, NY or SD at any rate.
- Do not make application of this product in Nebraska, west of US Hwy. 281 and north of US Hwy. 30.
- Do not make application to black belt soil of Alabama or Mississippi with soil pH >6.8 or history of nutrient deficiency such as iron chlorosis, as injury may result.
- Do not apply a post-emergence application of another product that contains chlorimuron-ethyl after application of this product in the same cropping season.
- Do not make application of this product through any type of irrigation system.
- Do not feed treated soybean forage or soybean hay to livestock.
- For a single application, do not apply a full rate of this product more than once per season.
- For split application: Two applications totaling the full labeled use rate (see Table 1) may be made per season.
- For tank mixtures: It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.
- Follow all label restrictions regarding soil type, soil pH, organic matter, rotational crop intervals, geographic location, and weed pressure, in determining the use rate of **Willowood Sulfen Chlorim** from Rate Table 1 or Table 2.

Use Precautions:

- Use of **Willowood Sulfen Chlorim** on soils that exceed pH 6.8 may result in unacceptable crop injury to the subsequently planted crop.
- **Willowood Sulfen Chlorim** may be used on fields that are generally pH 6.8 or less, but that may contain isolated areas where the pH exceeds 6.8 only if the following rotational crop is soybeans or a chlorimuron-ethyl resistant corn variety. Consult with your local seed supplier for potential resistant/tolerant varieties.
- Do not apply after soybean crop has emerged or severe injury or death of the crop may result.

Full Use Rate - Table 1:

Fall Application - Early Pre-Plant, Pre-Plant Burndown, Pre-Plant Incorporated, and Pre-Emergence: No-Till, Minimum-Till, Conventional Tillage		
Soil Texture	0.5 - 2% Organic Matter (Oz./Acre)	2 - 4% Organic Matter (Oz./Acre)
Coarse*: Loamy Sand, Sandy Loam	5.0 – 6.0 (0.219 – 0.263 lb. a.i./A)	6.0 – 7.0 (0.263 – 0.306 lb. a.i./A)
Medium: Loam, Sandy Clay Loam, Silt, Silt Loam	6.5 – 7.5 (0.284 – 0.328 lb. a.i./A)	7.0 – 8.0 (0.306 – 0.350 lb. a.i./A)
Fine: Clay, Clay Loam, Silty Clay Loam	7.0 – 8.0 (0.306 – 0.350 lb. a.i./A)	8.0 – 9.6 (0.350 – 0.420 lb. a.i./A)

*Do not use this product on sandy soil types that have <1% organic matter.

Make application of **Willowood Sulfen Chlorim** according to **Rate Tables** for types of application and specific geographic areas.

Limited Residual Rate for Planned Sequential Application Program - Table 2:

- Use rates in Table 2 below are to be used in conjunction with an effective planned POST herbicide program. Application of **Willowood Sulfen Chlorim** at these reduced rates will provide early season control or suppression to reduce early season weed competition. If resistance with the POST herbicide is documented in your area, use the full rates listed in Table 1.

Fall Application - Early Pre-Plant, Early Pre-Plant Burndown, Pre-Plant Incorporated, and Pre-Emergence: No-Till, Minimum-Till, Conventional Tillage		
Soil Texture	0.5 - 2% Organic Matter (Oz./Acre)	2 - 4% Organic Matter (Oz./Acre)
Coarse*: Loamy Sand, Sandy Loam	3.0 – 4.0 (0.131 – 0.175 lb. a.i./A)	3.2 – 4.0 (0.140 – 0.175 lb. a.i./A)
Medium: Loam, Sandy Clay Loam, Silt, Silt Loam	3.2 – 4.0 (0.140 – 0.175 lb. a.i./A)	3.2 – 4.8 (0.140 – 0.210 lb. a.i./A)
Fine: Clay, Clay Loam, Silty Clay Loam	4.0 – 5.0 (0.175 – 0.219 lb. a.i./A)	4.0 – 5.0 (0.175 – 0.219 lb. a.i./A)

*Do not use this product on sandy soil types that have <1% organic matter.

It is the pesticide user’s responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Conservation Tillage: Early Pre-Plant in No-Till, Minimum Till, or Stale Seedbed

Application of **Willowood Sulfen Chlorim** made early pre-plant must be applied in combination with the appropriate burndown herbicide such as glyphosate, glufosinate, paraquat, and/or 2,4-D to achieve acceptable control of existing weeds during application. When applied as a burndown treatment, **Willowood Sulfen Chlorim** is rainfast after one hour. For burndown or control of existing vegetation, use an appropriate burndown herbicide at labeled use rates (ex. glyphosate, etc.). Follow all label directions for the burndown herbicide including application timing, spray volume, adjuvants to achieve control of targeted weeds. For applications of **Willowood Sulfen Chlorim** made from 30 – 60 days prior to planting make application at the higher listed use rate in the appropriate soil range from tables 1 or 2 depending on the soybean system being grown.

Pre-Plant Incorporated (PPI) Applications

Uniformly incorporate **Willowood Sulfen Chlorim** or **Willowood Sulfen Chlorim** tank mixtures no deeper than 2” before planting soybeans. If tank-mixing **Willowood Sulfen Chlorim** with a companion herbicide, follow all label instructions for proper incorporation of the companion herbicide in the top 2” of soil. Improper incorporation can result in erratic weed control or potential crop injury.

Pre-Emergence Applications

Application of **Willowood Sulfen Chlorim** may be made at planting time or within 3 days after planting, but prior to seed emergence. Application of **Willowood Sulfen Chlorim** may be made alone or in tank mix combinations with other registered soybean herbicides. When applied in tank mix combinations, follow applicable use directions, including application rates, precautions, and restrictions of each product in the mixture. The seed furrow should be completely closed and seed covered prior to any treatment of **Willowood Sulfen Chlorim**.

Fall & Spring - Pre-Plant Burndown of Broadleaf Weeds Applications

Willowood Sulfen Chlorim can provide for some increased burndown activity on weeds that have emerged in no-till applications, but is not intended to replace all or part of an appropriate pre-plant burndown program. For control of the weeds listed below in no-till/minimum till fields, **Willowood Sulfen Chlorim** must be tank-mixed or used in combination with a full burndown program. This may include 2,4-D alone or in combination with a carfentrazone-ethyl containing product (ex. Aim®), dicamba, glyphosate, glufosinate, paraquat, or other appropriate burndown herbicides in tank-mixes at their appropriate rate for the size and species of weeds present. Reduced rates of **Willowood Sulfen Chlorim** and/or the corresponding burndown partner herbicides can result in weed escapes and unsatisfactory product performance.

Chickweed*	Nightshade species
Dandelion	Pennycress
Garlic, wild	Pigweeds
Henbit	Ragweed, common
Lambsquarters	Ragweed, giant
Lettuce, prickly	Shepherd's Purse
Marestail**	Smartweeds, annual
Mustard, tansy	Sunflower
Mustard, wild	Waterhemp species

*For chickweed control, add glyphosate, Express®, or Dicamba.

**For glyphosate-resistant biotypes, include an alternative and effective mode of action to achieve complete burndown.

For Burndown control, select the appropriate rate from **Rate Table 1 or 2** and make application as follows:

- For complete burndown of emerged annual grasses or broadleaf weeds or for burndown of weeds not listed above, **Willowood Sulfen Chlorim** must be tank mixed with: glyphosate, glufosinate, paraquat, 2,4-D alone or in combination with a carfentrazone-ethyl containing product (ex. Aim®) or other appropriate burndown herbicides.
- Crop Oil Concentrate (COC) or Methylated Seed Oil (MSO) at 1% v/v 1 gallon per 100 gallons of spray solution, or Non-ionic surfactant (NIS) at 1 qt./100 gallon of spray solution.
- In addition to the specific adjuvants listed above, other adjuvants may be used if they provide the same or similar functions as those previously mentioned. The addition of other adjuvants or fertilizers such as ammonium sulfate (AMS) may aid in control of weeds when used with appropriate companion herbicides. Consult specific companion herbicides for additional adjuvant, and fertilizer recommendations when making application for burndown of existing vegetation.
- Use flat fan nozzles or other appropriate nozzle types and a minimum of 10 gallons of water per acre. Where dense vegetation or heavy crop residues are present, increasing the spray volume to 15-20 gallons per acre or more may improve spray coverage and weed control.
- For burndown of larger annual grasses or broadleaf weeds exceeding 2-3", or for burndown of weeds not listed above, **Willowood Sulfen Chlorim** may be tank-mixed with glyphosate, glufosinate, paraquat, 2,4-D alone or in combination with a carfentrazone-ethyl containing product (ex. Aim®).

To select the proper tank mix product, identify the weeds that need to be controlled and consult the product labels to determine which product is needed. Consult the companion tank mix herbicide label for use instructions, rates, precautions, restrictions, and other use information.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Consult the **Spray Drift Management** section of this label for instructions on how to prevent spray drift.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a cool dry place and avoid excess heat.

In Case of Spill: Avoid contact. Isolate areas and keep out animals and unprotected persons.

To Confine Spills: Dike surrounding area, sweep up spillage. Dispose of in accordance with information given under Pesticide Disposal. Wash spill area with water, absorb with sand, cat litter or commercial clay, sweep up and dispose of in an approved manner. Place damaged container in a large holding container. Identify contents per required hazardous waste labeling regulations.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

Non-refillable containers (50 pounds or less): Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by procedures approved by State and local authorities.

Non-refillable containers (Greater than 50 pounds): Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by procedures approved by State and local authorities.

Returnable/Refillable Containers: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Outer Foil Pouches of Water Soluble Packets (WSP): Non-refillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

IMPORTANT: READ BEFORE USE

CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the unopened product container at once. By using the product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

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