

Specimen Label



Dow AgroSciences



HERBICIDE

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Intended For Use Only by Individuals/Firms Certified as Licensed Pesticide Applicators

Group	14	2	HERBICIDE
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Active Ingredients:

sulfentrazone	62.1%
cloransulam-methyl	7.9%
Other Ingredients.....	30.0%
Total.....	100.0%

Contains 0.7 lb of active ingredient per lb of product (0.62 lb ai of sulfentrazone and 0.08 lb of ai of cloransulam-methyl)

Precautionary Statements

Hazards to Humans and Domestic Animals

EPA Reg. No. 62719-680

CAUTION

Harmful If Swallowed. Causes Moderate Eye Irritation. Wear long sleeved shirt, long pants, shoes and socks.

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

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

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

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.

User Safety Recommendations

Users should:

- Wash hands 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.

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 by mouth to an unconscious person.

First Aid (Cont.)

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

If 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 15-20 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. You may also contact 1-800-992-5994 for emergency medical treatment information.

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 washwaters or rinsate.

Groundwater advisory: Cloransulam-methyl is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination. Do not use on coarse soils classified as sand which have less than 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.

Physical or Chemical Hazards

Do not use or store near heat or open flame.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

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

(Storage and Disposal for rigid containers 5 gal or less)

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Keep away from fire and sparks. Store in a cool, dry, well-ventilated area.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Storage and Disposal (Cont.)

Triple rinse or pressure 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 1/4 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. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

(Storage and Disposal for nonrigid containers any size)

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Keep away from fire and sparks. Store in a cool, dry, well-ventilated area.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

(Storage and Disposal for refillable rigid containers larger than 5 gal)

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Keep away from fire and sparks. Store in a cool, dry, well-ventilated area.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: 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 a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)

Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.

Pesticide Storage: Keep away from fire and sparks. Store in a cool, dry, well-ventilated area.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling: Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure 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 1/4 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. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank to collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Attention

- Although this label may appear similar to the label on a product you may have used, there may be important label differences. Users must read, understand and strictly follow all label directions, precautions and restrictions.
- It is the user's responsibility to be aware of and to follow all state or local precautions or restrictions not appearing on this product label.
- Prior to purchase or use of this product, read the Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies on this label. If the terms and conditions are unacceptable, return the product immediately in the original and unopened container.

Product Information

Sonic® herbicide is for preemergence control of broadleaf and grass weeds in soybeans only.

The mode of action of Sonic involves uptake by weed roots and shoots. Preemergence and preplant incorporated applications of Sonic require rainfall or irrigation to activate the herbicide. The amount of rainfall or irrigation required for activation following application depends on existing soil moisture, organic matter content and soil texture. If adequate moisture (1/2" to 1") is not received within 7 to 10 days after the treatment with Sonic, a shallow cultivation may be needed to obtain desired weed control. When sufficient moisture is received after dry conditions, Sonic will provide control of susceptible germinating weeds.

Sonic exhibits excellent crop safety. Poor growing conditions, such as excessive moisture, cool temperatures, and soil compaction or the presence of various pathogens may impact seedling vigor. Under these conditions, the active ingredients in Sonic, like other soil-applied herbicides, can contribute to crop response. However, these early symptoms are short-lived.

Observe all instructions, crop restrictions, mixing directions, application precautions, replanting directions, rotational crop guidelines and other label information of each product when tank mixing with Sonic.

Weed Resistance Management Guidelines

Sonic contains sulfentrazone, a Group 14 herbicide (PPO inhibitor), and cloransulam-methyl, a Group 2 herbicide (ALS inhibitor). Any weed population may contain plants naturally resistant to Group 14 or Group 2 herbicides. Such resistant weed plants may not be effectively managed using Group 14 or Group 2 herbicides but may be effectively managed utilizing another herbicide alone or in mixtures from a different Group and/or by using cultural or mechanical practices. However, any herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides. Consult your Dow AgroSciences representative, state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

Best Management Practices

Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that using full labeled rates and following directions for use is important to delay the selection for resistance. Scouting after an herbicide application is important because it can facilitate the early identification of weed shifts and/or weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in retarding the spread of resistant weed seed.

General principles of herbicide resistance management

1. Apply integrated weed management practices. Use multiple herbicide modes-of-action with overlapping weed spectrums in rotation, sequences, or mixtures.
2. Use the full labeled herbicide rate and proper application timing for the hardest to control weed species present in the field.
3. Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
4. Monitor site and clean equipment between sites.

For annual cropping situations, also consider the following:

- Start with a clean field and control weeds early by using a burndown treatment or tillage in combination with a preemergence residual herbicide as appropriate.
- Use cultural practices such as cultivation and crop rotation, where appropriate.
- Use good agronomic principles that enhance crop competitiveness.
- Use new commercial seed that is as free of weed seed as possible.

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 pad 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.

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.

Rotational Crop Guidelines

Shown below are the minimum intervals in months from the time of an application of Sonic until soil treated with Sonic may be replanted with the crops listed. When Sonic is tank mixed with other herbicide(s), refer to all the labels for re-cropping instructions, following the intervals that are the most restrictive. For crops not listed, the interval is 30 months and a successful field bioassay.

Crop	Interval (Months)
alfalfa	12
barley	12
canola	24
corn, field ¹	10
corn, pop ¹	10
corn, seed ¹	10
corn, sweet	18
cotton	18 or 12*
dry shelled beans and peas	12
oats	12
peanuts	12
potatoes	18
rice	10
rye	12
sorghum	12
soybeans	anytime
sugar beets ²	30
sunflower ²	30
tobacco ³	30
wheat	4

¹Corn, including field, popcorn and seed corn: Observe an 18-month rotational interval if 6.45 to 8 oz of Sonic is applied to soil of 1.5% organic matter or less, and pH is above 7. **Hybrid seed production:** Corn inbred lines grown for hybrid seed production may be injured in the growing season following an application of Sonic. Inbred lines should be thoroughly tested for crop tolerance before rotating to production scale acreages. **Dow AgroSciences will not accept responsibility for any crop injury on field corn grown for seed following an application of Sonic.**

²These crops require a 30-month rotational interval and a successful field bioassay.

³Transplanted tobacco may be planted 10 months after application of a maximum application rate of 3 oz of Sonic per acre. Tobacco in seeded nurseries may be replanted 18 months after application of 3 oz of Sonic per acre and following a successful field bioassay. A rotational interval of 30 months and a successful field bioassay is required for all applications of Sonic greater than 3 oz per acre.

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

- Medium and fine soils
- Soil pH < 7.2
- Rainfall or irrigation must exceed 15" after application of Sonic.

Replanting Instructions

If the initial planting of soybeans fails to produce a uniform stand, soybeans may be replanted in fields treated with Sonic alone. Do not re-treat fields with a second application of Sonic. When tank mixing with a labeled product, refer to the replant instructions for that product. Do not replant treated fields with any crop at intervals that are inconsistent with the rotational crop guidelines on the label for Sonic. Where a tank mix is used, refer to the product's labels for any additional replant instructions.

Application Information

Do not apply to crops other than soybeans.

Ground Application

Use a standard low pressure herbicide boom sprayer equipped with suitable nozzles and screens. Apply uniformly using properly calibrated nozzles (10 to 40 psi) and screens and strainers no finer than 50 mesh. Use 10 to 40 gallons of spray solution per acre. Do not exceed 40 psi spray pressure unless required by the spray nozzle manufacturer.

Continuous agitation during application is required. Avoid swath overlaps. Shut off spray booms while turning, slowing or stopping as over application may result. Do not allow spray mixtures of Sonic to sit overnight as settling of product and difficulty of re-suspending may occur.

To avoid injury to sensitive crops, spray equipment used for applications of Sonic must be drained and thoroughly cleaned with water plus ammonia or detergent before being used to apply other products. See Spray Clean-Out section.

Avoid all direct and/or indirect spray contact with non-target plants.

Do not apply near desirable vegetation. Allow adequate distance between target area and desirable plants to minimize exposure.

Runoff and Wind Erosion Precautions

Do not apply under conditions which favor runoff or wind erosion of soil containing Sonic to non-target areas. To prevent off-site movement due to runoff or wind erosion:

- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, allow the soil surface to be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow covered ground.
- Do not apply to soils when saturated with water.
- Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

Aerial Application

Use nozzle types and arrangements that will provide optimum spray distribution and maximum coverage. To minimize spray drift, apply Sonic in a spray volume of a minimum of 5 gallons of spray solution per acre. Increase the spray volume for fields with dense weed pressure.

Spray Drift Reduction Advisory

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from applications to agricultural field crops. Where states and local governments have more stringent regulations, they must be observed.

Droplet Size Information

Reduce drift potential by applying large droplets. The optimum drift management strategy is to apply the largest droplets that will provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift when applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

VMD: VMD is the expression of the droplet size of the spray cloud. The VMD value means that 50% of the droplets are larger than the expressed value and 50% of the droplets are smaller than the expressed value. Optimum spray clouds should be 450 microns with fewer than 10% of the droplets being 200 microns or smaller.

Volume: Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows usually produce larger droplets.

Pressure: Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of Nozzles: Use the minimum number of nozzles that provide uniform coverage.

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.

Application Height: Making applications at the lowest height practical reduces exposure of spray droplets to evaporation and wind movement. For aerial applications, applications should not be made at a height greater than 10 feet above the top of the tallest plants, unless a greater height is required for aircraft safety.

Boom Length: For aerial applications, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Swath Adjustment

Swath adjustment distance must increase with increasing drift potential (higher wind, smaller drops, etc.). When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upward.

Wind

Drift potentials are lowest between wind speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. Applications in wind conditions outside of this range could increase the risk of off-target effects and should be avoided. **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 conditions of low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Do not apply Sonic during temperature inversions because the drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures 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 following 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 a 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.

Sensitive Areas

Applications should be made when the wind is blowing away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, and non-target crops).

Mixing Instructions and Loading Instructions

Sonic Applied Alone

Select the proper application rate of Sonic from Timing and Method of Application section of this label. Fill the spray tank with approximately one-half of the volume of water needed for the acreage being treated. With agitator operating, add the required amount of Sonic for acreage being treated by opening the bottle(s) and measuring directly into the spray tank. Allow the product to fully disperse. Complete the addition of spray water. Maintain agitation during filling, mixing and application. Apply the spray mixture of Sonic immediately after mixing. Do not store spray mixture.

Sonic Applied in Tank Mix Combination

Select the proper application rate of Sonic from Timing and Method of Application section of label. Read and follow all applicable use directions, precautions and restrictions on the respective tank mix product labels. To ensure product compatibility, a jar test should be conducted before large volume mixing. Provided the jar test indicates the mixture is compatible, prepare the tank mixture as follows.

Fill the spray tank with approximately one-half of the volume of water needed for the acreage being treated. With agitator operating, add the required amount of Sonic for the acreage being treated by opening the bottle(s) and measuring directly into the spray tank. Allow the product to fully disperse. Next add the specified amount(s) of the additional tank mix product(s) in the following order: first, dry formulations (e.g., wettable powders, dry flowables); next, liquid suspensions (e.g., flowables); and, finally, liquids (e.g., ECs). Allow time for complete mixing and dispersion after each addition, adding water as necessary. Complete the addition of spray water. Maintain agitation during filling, mixing and application. Use tank mixtures of Sonic immediately after mixing. Do not store tank mixtures.

Fertilizer Spray Mixtures

Applications of Sonic alone or with recommended tank mixtures in conjunction with fertilizer solutions may be used unless use directions specifically state otherwise. Small quantities should be tested for compatibility by the following procedure before mixing in full spray tank quantities:

1. Put 1 pint of fertilizer solution in a quart jar.
2. Add the appropriate amount of herbicide based on the table below. If more than one product is to be used, add each separately using the following sequence: dry formulations (e.g., wettable powders, dry flowables) first, liquid suspensions (e.g., flowables) next, and finally liquids (e.g., ECs).

Herbicide Type	Herbicide Field Use Rate	Amount Herbicide Added per Pint ¹
wetable powders or dry flowables	0.5 lb	0.75 teaspoon
	1 lb	1.5 teaspoons
	2 lb	3 teaspoons
	3 lb	4.5 teaspoons
emulsifiable concentrates	1 pt	0.5 teaspoon
liquid flowables	1 qt	1 teaspoon
	2 qt	2 teaspoons
	3 qt	3 teaspoons

¹Based on a spray volume of 25 gal per acre. For lower or higher spray volumes, adjust fluid fertilizer quantity accordingly.

3. Close jar and shake well.
4. Watch mixture for several seconds, again after 5 minutes and again after 30 minutes. If herbicide/fertilizer combination remains mixed or can be remixed readily (i.e., does not permanently separate, foam, gel or become lumpy), the mixture is compatible and can be mixed in full volumes and sprayed. If the mixture is compatible, prepare spray by adding fertilizer solution to the tank first, then follow directions noted below.

Sonic Applied Alone with Liquid Fertilizer

In order to add Sonic to a liquid fertilizer carrier, Sonic must be premixed in a slurry of product and clear water. Fill the spray tank one-half full with fertilizer solution. With agitator operating, add the slurry with Sonic to the spray tank. Use a minimum of one gallon of water for each container of Sonic. Stir until completely dissolved. Then add slurry to the spray tank through a 20 to 35 mesh screen. Rinse container used for premixing and add rinsate to the spray tank. Complete filling the sprayer tank with fertilizer. Maintain agitation during filling, mixing and application. Use the spray mixture of Sonic immediately after mixing. Do not store mixture.

Sonic Applied in Tank Mix Combinations

Fill the spray tank one-half full with fertilizer solution. With the agitator operating, add a slurry of Sonic as described in the preceding paragraph. Next dilute the individual tank mix partners with sufficient water to form a free flowing dispersion, then add to the spray tank of fertilizer. While maintaining agitation, add the other products using the following order: slurry of dry formulations (wetable powders, dry flowables) first, diluted liquid formulations (ECs, flowables) second. Complete filling the sprayer tank with fertilizer. Maintain agitation during filling, mixing and application. Use tank mixtures of Sonic immediately after mixing. Do not store tank mixtures.

Sprayer Equipment Clean-Out

After spraying Sonic and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned using the following procedure:

1. Drain sprayer tank, hoses, and spray boom and thoroughly rinse the inside of the sprayer tank with clean water to remove sediment and residues. Thoroughly flush sprayer hoses, boom and nozzles with clean water.
2. Fill the tank 1/2 full with clean water, and add appropriate detergent or ammonia (follow manufacturer's directions for use). Fill the tank to capacity and operate the sprayer for 15 minutes to flush hoses, boom, and nozzles.

- Convenient and thorough cleaning of the sprayer can be achieved if the cleaning solution is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
- Before using the sprayer, drain the spray system. Rinse the tank with clean water and flush through the hoses, boom, and nozzles. Remove and clean spray tips and screens separately with the detergent or ammonia solution.
- Properly dispose of all cleaning solution and rinseate in accordance with federal, state and local regulations and guidelines.

Do not drain or flush 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. Should small quantities of Sonic remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. Dow AgroSciences accepts no liability for any effects due to inadequately cleaned equipment.

Soybeans (Conventional and GMO)

Timing and Method of Application

Sonic may be used alone or in tank mixture combinations for the control of the weeds listed in conventional or GMO soybean varieties.

Application Rates

Soil Organic Matter ¹	Sonic (oz/acre) ²	Rate of Sonic (lb ai/acre)	
		Sulfentrazone	Cloransulam-methyl
3% or less	6.45	0.25	0.032
greater than 3%	8	0.31	0.04

¹Do not apply Sonic to soils classified as sand with less than 1% organic matter.

²Maximum application rates: See Preplant Surface and Preemergence Application for specifications.

Preplant Incorporated Application

Apply Sonic alone or in tank mix combination with other herbicides registered for preplant incorporated application to soybeans. Incorporate the herbicide(s) into the top 1 to 3 inches of the final seedbed using equipment that provides thorough soil mixing. When Sonic is applied in tank mix combination with other herbicide(s), follow the incorporation directions for the tank mix partner(s). Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture.

Preplant Surface Application

Apply Sonic alone or in tank mix combination with other herbicides registered for preplant soil surface application to soybeans. If applied in tank mix combination, follow use instructions, including application rates), precautions and restrictions of each product used in the tank mixture.

Preemergence Application

Apply at planting time or within 3 days after planting. Sonic may be applied alone or in tank mix combination with other herbicides registered for preemergence application to soybeans. When applied in tank mix combination, follow applicable use instructions, including application rates. Observe the precautions and restrictions of each product used in the tank mixture. Apply before planting, at planting time or within 3 days of planting. Properly closed seed furrows are necessary when applying at planting time or before seed germination. Do not apply later than 3 days after planting as crop injury may result.

Weeds Controlled

When used as directed, Sonic will provide control or suppression of the following broadleaf weeds and grasses:

Common Name

Scientific Name

Broadleaves

amaranth, Palmer
amaranth, spiny
anoda, spurred
beggarweed, Florida
carpetweed
cocklebur, common
copperleaf, hophornbeam
croton, tropic
daisy, American
dayflower, common
galinsoga, hairy
groundcherry, clammy
groundcherry, cutleaf
horseweed (marestail)²
jimsonweed
kochia
ladysthumb
lambsquarters, common
mallow, Venice

Amaranthus palmeri
Amaranthus spinosus
Anoda cristata
Desmodium tortuosum
Mollugo verticillata
Xanthium strumarium
Acalypha ostryifolia
Croton glandulosus
Eclipta alba
Commelina communis
Galinsoga ciliata
Physalis heterophylla
Physalis angulata
Conyza canadensis
Datura stramonium
Kochia scoparia
Polygonum persicaria
Chenopodium album
Hibiscus trionum

Common Name

Broadleaves (Cont.)

Mexicanweed
morningglory, entireleaf
morningglory, ivyleaf
morningglory, palmleaf
morningglory, pitted¹
morningglory, purple
morningglory, red
morningglory, smallflower
morningglory, tall
mustard, wild
nightshade, eastern black
nightshade, hairy
nightshade, silverleaf
pigweed, redroot
pigweed, smooth
pigweed, tumble
poorjoe
purslane, common
pusley, Florida
ragweed, common²
ragweed, giant²
senna, coffee
smartweed, Pennsylvania
smellmelon
spurge, spotted
starbur, bristly
sunflower, common
teaweed (prickly sida)
thistle, Russian
velvetleaf
waterhemp, common
waterhemp, tall

Grasses

barnyardgrass¹
broadleaf signalgrass
crabgrass, large
crabgrass, smooth
crabgrass, southern¹
crowfootgrass¹
foxtail, giant¹
foxtail, green
foxtail, yellow¹
goosegrass
johnsongrass, seedling¹
orchardgrass
panicum, fall
panicum, Texas

Sedges

nutsedge, purple
nutsedge, yellow
sedge, annual

Scientific Name

Caperonia castanaefolia
Ipomea hederacea integruscula
Ipomea hederacea hederacea
Ipomea wrightii
Ipomea lacunosa
Ipomea turbinata
Ipomea coccinea
Jacquemontia tamnifolia
Ipomea purpurea
Brassica kaber
Solanum ptycanthum
Solanum sarrachoides
Solanum elaeagnifolicum
Amaranthus retroflexus
Amaranthus hybridus
Amaranthus albus
Diodia teres
Portulaca oleracea
Richardia scabra
Ambrosia artemisiifolia
Ambrosia trifida
Cassia occidentalis
Polygonum pennsylvanicum
Cucumis melo
Euphorbia maculata
Acanthospermum hispidum
Helianthus annuus
Sida spinosa
Salsola kali
Abutilon theophrasti
Amaranthus rudis
Amaranthus tuberculatos

Echinochloa crus-galli
Brachiaria platyphylla
Digitaria sanguinalis
Digitaria ischaemum
Digitaria ciliaris
Dactyloctenium aegyptium
Setaria faberi
Setaria viridis
Setaria lutescens
Eleusine indica
Sorghum halepense
Dactylis glomerata
Panicum dichotomiflorum
Panicum texanum

Cyperus rotundus
Cyperus esculentus
Cares spp.

¹Provides suppression or partial control only.

²Will not control ALS resistant biotypes of these weed species.

Reduced Rates for Roundup Ready Soybeans

For use when no glyphosate resistant biotypes have been identified. Sonic may be used at reduced rates in conjunction with planned follow-up weed control applications with glyphosate based products such as Durango[®] DMA[®] herbicide, Roundup or other glyphosate herbicide products labeled for use on Roundup Ready soybean varieties. Follow all application directions for Sonic. Sonic may have reduced control of certain ALS resistant biotypes including marestail, giant ragweed, common ragweed, and cocklebur. .

Apply before planting, at planting time or within 3 days after planting. Properly closed seed furrows are necessary when applying at planting. Recommended postemergence treatments may include any product or combination of products labeled for use on soybeans.

Reduced Rate Application Rates

Soil Organic Matter ¹	Sonic (oz/acre)	Rate of Sonic (lb ai/acre)	
		Sulfentrazone	Cloransulam-methyl
3% or less	3.00 – 5.00	0.116 – 0.193	0.015 – 0.025
greater than 3%	4.00 – 6.00	0.155 – 0.233	0.020 – 0.030

¹Do not apply Sonic to soils classified as sand with less than 1% organic matter.

Preplant Burndown Application

Sonic, used at 6.45 to 8 oz per acre as in the Application Rates chart for all soybeans above, provides burndown of weeds listed below when applied as directed. Thorough coverage is essential. Apply a minimum of 10 gallons per acre finished spray volume. Use a non-ionic surfactant (NIS)

having at least 80% active ingredient strength at 0.125 to 0.25% v/v (1 to 2 pints per 100 gallons of spray solution) plus ammonium sulfate (AMS) at 2.5% v/v. Crop oil concentrate (COC) at 1.2% v/v plus ammonium sulfate may be used. Burndown results may be slowed or reduced when the growth of the weeds is affected by unusual environmental factors just prior to or after application such as especially cool or widely fluctuating day and night air temperatures, drought, heat stress, or waterlogged soils. To broaden the spectrum of weeds controlled, Sonic may be tank mixed with other herbicides such as Aim EW, 2,4-D products, glyphosate products, paraquat products, glufosinate, or metribuzin. Users must read, understand and strictly follow all label directions, precautions and restrictions when using tank mixes.

Weeds Controlled

When used as directed for burndown, Sonic will provide control or suppression of the following broadleaf weeds:

Common Name

Scientific Name

Broadleaves

cocklebur, common
horseweed (marestail)²
jimsonweed
mallow, Venice
morningglory, entireleaf
morningglory, ivyleaf
morningglory, palmleaf
morningglory, pitted¹
morningglory, purple
morningglory, red
morningglory, smallflower
morningglory, tall
ragweed, common²
ragweed, giant²
sicklepod
smartweed, Pennsylvania
sunflower, common
velvetleaf¹

Xanthium strumarium
Conyza canadensis
Datura stramonium
Hibiscus trionum
Ipomea hederacea integriuscula
Ipomea hederacea hederacea
Ipomea wrightii
Ipomea lacunosa
Ipomea turbinata
Ipomea coccinea
Jacquemontia tamnifolia
Ipomea purpurea
Ambrosia artemisiifolia
Ambrosia trifida
Cassia obtusifolia
Polygonum pensylvanicum
Helianthus annuus
Abutilon theophrasti

¹For velvetleaf control, use 28% nitrogen (UAN) or AMS with NIS or COC.

²Sonic will not control ALS resistant biotypes of these weed species.

Precautions

- Properly closed seed furrows are necessary when applying at planting time or within 3 days after planting.
- Maintain spray tank agitation until the spray mixture is applied.

Restrictions

- Do not apply this product through any type of irrigation system.
- Do not make more than one soil application per acre per year.
- Do not apply more than 8 oz of Sonic per acre per year as a cumulative total of soil application of Sonic and post-emergence application of FirstRate[®] herbicide (1 oz per acre of Sonic contains 0.005 lb a.i. cloransulam-methyl and 0.3 oz per acre of FirstRate contains 0.016 lb a.i. cloransulam-methyl. Do not apply more than 0.055 lb a.i. per acre of cloransulam-methyl per year).
- Do not feed treated soybean forage or soybean hay to livestock.
- Do not harvest soybeans for 65 days after application of Sonic.
- Do not apply Sonic to soils classified as sands containing less than 1% organic matter.
- Do not drain or flush 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.

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1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used

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Revisions:

1. Added aerial application section
2. Added Mode of Action Groups 2 and 14