

Topramezone	Group	27	Herbicide
Glufosinate-ammonium	Group	10	Herbicide



For control of emerged grass and broadleaf weeds in LibertyLink® (LL) field corn and LL sweet corn.

Active Ingredient:

Topramezone	1.10%
Glufosinate-ammonium	26.95%
Inert ingredients:	71.95%

Total: 100.00%

1 gallon contains 0.1 pounds of TOPRAMEZONE free acid and 2.47 pounds of GLUFOSINATE-ammonium.

**KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCION**

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

FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. • Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 - 20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed:	<ul style="list-style-type: none"> • 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.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN	
If this product is ingested, endotracheal intubation and gastric lavage should be performed as soon as possible, followed by charcoal and sodium sulfate administration. Additionally, call 1-888-681-4261 immediately for further information.	
EMERGENCY INFORMATION	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY:	
For Medical Emergencies phone:.....	1-888-681-4261
For Transportation Emergencies, including spill, leak or fire, phone: CHEMTREC®	1-800-424-9300
For Product Use Information phone: AMVAC®	1-888-462-6822

See inside for additional Precautionary Statements.

EPA Reg. No. 5481-637

EPA Est. No: _____

Net Contents: _____

As marked on Container



AMVAC Chemical Corporation
4695 MacArthur Court, Suite 1200
Newport Beach, CA 92660 U.S.A.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. 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
- Chemical resistant gloves including barrier laminate, polyethylene, Viton® ≥ 14 mils, rubber ≥ 14 mils or polyvinyl chloride ≥ 14 mils.
- Shoes plus socks

Mixers/loaders supporting aerial applications must use closed mixing/loading systems.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. 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.

USER SAFETY RECOMMENDATIONS

Users should:

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Engineering Controls Statement

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

Environmental Hazards

Do not apply directly to water or to areas where surface water is present. Do not apply to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment wash waters or rinsate.

This product is toxic to vascular plants and should be used strictly in accordance with the drift and runoff precautions on this label in order to minimize off-site exposures.

Under some conditions, this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, including no-till, limited till or contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands, etc. or on the downhill side of fields where run-off could occur to minimize water runoff is recommended.

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, with the following exceptions:

- Field corn scouting- REI of 4 days
- Do not move irrigation pipe within 7 days of an application to any crop.

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, including plants, soil, or water, is:

- Coveralls worn over short-sleeved shirt and short pants
- Chemical resistant gloves including barrier laminate, polyethylene, Viton ≥ 14 mils, rubber ≥ 14 mils or polyvinyl chloride ≥ 14 mils.
- Chemical-resistant footwear plus socks

All applicable directions, restrictions, precautions and Limited Warranty and Disclaimer are to be followed. This labeling must be in the user's possession during application.

IMPORTANT CROP SAFETY INFORMATION READ BEFORE USING THIS PRODUCT

Postemergence applications of SINATE HERBICIDE may be made only to corn resistant to the active ingredients in this product. To the extent consistent with applicable law, AMVAC does not warrant the use of this product on corn other than those designated as LibertyLink to safely withstand the application of SINATE HERBICIDE.

The basis of selectivity of SINATE HERBICIDE in corn is the presence of a gene in LibertyLink corn which results in resistant corn plants to glufosinate, one of active ingredients in SINATE HERBICIDE. Crops not containing this gene will not be resistant to SINATE HERBICIDE and severe crop injury and/or death may occur. **DO NOT** allow spray to contact foliage or green tissue of desirable vegetation other than crops resistant to the active ingredients in this product.

Rate Conversion Table

Rate of SINATE Herbicide	Amount of active ingredient in lbs a.i./acre
21 fl oz/A	0.0164 lb ai/A topramezone + 0.4 lb ai/A glufosinate
28 fl oz/A	0.022 lb ai/A topramezone + 0.54 lb ai/A glufosinate

I. PRODUCT INFORMATION

SINATE HERBICIDE contains both a systemic postemergence herbicide (topramazone) and a water-soluble nonselective, contact herbicide (glufosinate) for selective control or growth suppression of emerged broadleaf and grass weeds in LibertyLink (LL) field corn (grown for grain or silage) and LL sweet corn. This product may only be used on LibertyLink resistant field corn and sweet corn hybrids.

SINATE HERBICIDE is absorbed by plant foliage and controls weeds by inhibiting glutamine biosynthesis (Group 10) and carotenoid biosynthesis (Group 27). SINATE HERBICIDE is foliar active with limited residual soil activity. Weeds that emerge after application may not be controlled. Apply to small, actively growing weeds before weeds exceed the maximum stem height or vine length listed for broadleaf weeds listed in Table 1 and grass weeds listed in Table 2.

SINATE HERBICIDE requires uniform thorough spray coverage. Applications made in warm temperatures, high humidity, bright sunlight, and made between dawn and 2 hours before sunset will improve activity. Weed control may be reduced if application is made when heavy dew and mist/rain are present; or when weeds are under stress due to environmental conditions including drought, cool temperatures, or extended periods of cloudiness. Necrosis of leaves and young shoots may occur within 2 to 4 days after application under good growing conditions. Total herbicidal symptomology on weeds may take up to 14 days after application.

SINATE HERBICIDE is rainfast four (4) hours after application to most weed species; therefore, rainfall within four (4) hours may necessitate retreatment or may result in reduced weed control.

SINATE HERBICIDE may be tank-mixed with other registered herbicides used to provide both a broader spectrum of weed control and residual weed control. Atrazine at 0.25 to 0.5 lb active ingredient per acre significantly increases the weed activity of SINATE HERBICIDE. Refer to Tank Mixes in the Crop Use Directions (Section VII). It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and the precautionary statements of each product in the tank mixture.

SINATE HERBICIDE applications must also include specified spray additives. Refer to Additives and Mixing Order (Sections III and IV).

Table 1. Broadleaf Weeds Controlled or Suppressed with SINATE HERBICIDE applied Postemergence (Including ALS, Auxin-, Glyphosate-, HPPD-, PPO- and Triazine-Resistant Biotypes)

Broadleaf Weeds		21 fl. oz. per acre ^{1,4} Maximum Weed Size (Inches)	28 fl. oz. per acre ^{1,4} Maximum Weed Size (Inches)
Amaranth, Palmer	<i>Amaranthus palmeri</i>	4	6
Amaranth, Powell	<i>Amaranthus powellii</i>	4	6
Beggarweed, Florida	<i>Desmodium tortuosum</i>	3	4
Black medic	<i>Medicago lupulina</i>	3	4
Blueweed, Texas	<i>Helianthus ciliaris</i>	3	4
Buckwheat, wild	<i>Fallopia convolvulus</i>	3	4
Buffalobur	<i>Solanum rostratum</i>	3	4
Burcucumber	<i>Sicyos angulatus</i>	4	6
Catchweed bedstraw (cleavers)	<i>Galium aparine</i>	2	3
Canola, volunteer ³	<i>Brassica napus</i>	4	6
Carpetweed	<i>Mollugo verticillata</i>	4	6
Chickweed, common	<i>Stellaria media</i>	3	4
Cocklebur, common	<i>Xanthium strumarium</i>	4	6
Copperleaf, hophornbeam	<i>Acalypha ostryifolia</i>	3	4
Cotton, volunteer ³	<i>Gossypium hirsutum</i>	3	4
Croton, tropic	<i>Croton glandulosus</i>	3	4
Croton, woolly	<i>Croton capitatus</i>	2	3
Dandelion	<i>Taraxacum officinale</i>	3 ²	4 ²
Devil's-claw	<i>Proboscidea louisianica</i>	3	4
Eclipta	<i>Eclipta alba</i>	3	4
Fleabane, annual	<i>Erigeron annuus</i>	3	4
Galinsoga, hairy	<i>Galinsoga ciliata</i>	4	6

Galinsoga, small flower	<i>Galinsoga parviflora</i>	3	4
Geranium, cutleaf	<i>Geranium dissectum</i>	3	4
Groundcherry, cutleaf	<i>Physalis angulate</i>	3	4
Hempnettle	<i>Galeopsis tetrahit</i>	3	4
Henbit	<i>Lamium amplexicaule</i>	3	4
Horsenettle, Carolina	<i>Solanum carolinense</i>	2 ²	3 ²
Jimsonweed	<i>Datura stramonium</i>	4	6
Knotweed	<i>Polygonum aviculare</i>	3	4
Kochia	<i>Kochia scoparia</i>	4	6
Ladysthumb	<i>Polygonum persicaria</i>	3	4
Lambsquarters, Common	<i>Chenopodium album</i>	4	6
Lettuce, prickly	<i>Lactuca serriola</i>	3	4
Mallow, common	<i>Malva neglecta</i>	3	4
Mallow, Venice	<i>Hibiscus trionum</i>	3	4
Marestail (Horseweed)	<i>Erigeron canadensis</i>	4	6
Marshelder, annual	<i>Iva annua</i>	3	4
Morningglories	<i>Ipomoea spp.</i>	3	4
Mustard, wild	<i>Sinapis arvensis</i>	4	6
Nightshade, black	<i>Solanum nigrum</i>	4	6
Nightshade, eastern black	<i>Solanum ptycanthum</i>	4	6
Nightshade, hairy	<i>Solanum sarrachoides</i>	4	6
Pennycress (Stinkweed)	<i>Thlaspi arvense</i>	3	4
Pigweed, prostrate	<i>Amaranthus blitoides</i>	4	6
Pigweed, redroot	<i>Amaranthus retroflexus</i>	4	6
Pigweed, smooth	<i>Amaranthus hybridus</i>	4	6
Pigweed, tumble	<i>Amaranthus album</i>	3	4
Puncturevine	<i>Tribulus terrestris</i>	3	4
Purslane, common	<i>Portulaca oleracea</i>	2	3
Pusley, Florida	<i>Richardia scabra</i>	2	3
Ragweed, common	<i>Ambrosia artemisiifolia</i>	4	6
Ragweed, giant	<i>Ambrosia trifida</i>	4	6
Senna coffee	<i>Senna occidentalis</i>	3	4
Sesbania, hemp	<i>Sesbania herbacea</i>	3	4
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	3	4
Sicklepod (java bean)	<i>Senna obtusifolia</i>	3	4
Sida, prickly	<i>Sida spinose</i>	3	4
Smartweed, Pennsylvania	<i>Polygonum pensylvanicum</i>	3	4
Smellmelon	<i>Cucumis melo</i>	3	4
Sowthistle, annual	<i>Sonchus oleraceus</i>	3	4
Soybean, volunteer ³	<i>Glycine max</i>	4	6
Spurge, prostrate	<i>Euphorbia prostrata</i>	2	3
Spurge, spotted	<i>Euphorbia maculate</i>	2	3
Starbur, bristly	<i>Acanthospermum hispidum</i>	3	4
Sunflower, Volunteer	<i>Helianthus spp.</i>	4	6
Sunflower, Wild (Common)	<i>Helianthus annuus</i>	4	6
Thistle, Canada	<i>Cirsium arvense</i>	3 ²	4 ²
Thistle, Russian	<i>Salsola iberica</i>	3	4
Velvetleaf	<i>Abutilon theophrasti</i>	4	6
Waterhemp, common	<i>Amaranthus rudis</i>	4	6
Waterhemp, tall	<i>Amaranthus tuberculatus</i>	4	6

¹ Apply with atrazine at 0.25 to 0.5 lb active per acre for enhanced weed control.

² Indicates growth suppression.

³ Will not control volunteer LibertyLink crops from previous season.

⁴ See Rate Conversion Table for pounds active ingredient per acre

Table 2. Annual Grass Weeds Controlled or Suppressed with SINATE HERBICIDE Applied Postemergence (Including ALS-, Glyphosate- and Triazine-Resistant Biotypes).

Annual Grass Weeds		21 fl. oz. per acre ^{1,5} Maximum Weed Size (Inches)	28 fl. oz. per acre ^{1,5} Maximum Weed Size (Inches)
Barley, volunteer	<i>Hordeum vulgare</i>	3 ³	4 ³
Barnyardgrass	<i>Echinochloa crus-galli</i>	3	4
Bluegrass, annual	<i>Poa annua</i>	3	5
Corn, volunteer ⁴	<i>Zea mays</i>	4	5
Crabgrass, Large ²	<i>Digitaria sanguinalis</i>	3	4
Crabgrass, Smooth ²	<i>Digitaria ischaemum</i>	3	4
Cupgrass, Woolly	<i>Eriochloa villosa</i>	3	4
Foxtail, bristly	<i>Setaria verticillata</i>	3	4
Foxtail, giant	<i>Setaria faberi</i>	4	5
Foxtail, green	<i>Setaria viridis</i>	3	4
Foxtail, robust purple	<i>Setaria viridis</i>	3	4
Foxtail, yellow ²	<i>Setaria pumila</i>	3	4
Goosegrass	<i>Eleusine indica</i>	3	4
Johnsongrass, seedling	<i>Sorghum halepense</i>	3	4
Junglerice	<i>Echinochloa colonum</i>	3	4
Millet, wild-proso	<i>Panicum miliaceum</i>	3	4
Millet, volunteer proso	<i>Panicum miliaceum</i>	3	4
Oat, wild ²	<i>Avena fatua</i>	3	4
Panicum, fall	<i>Panicum dichotomiflorum</i>	3	4
Panicum, Texas	<i>Panicum texanum</i>	3	4
Rice, red	<i>Oryza sativa</i>	3	4
Sandbur, field	<i>Cenchrus incertus</i>	2 ^{2,3}	2 ²
Shattercane	<i>Sorghum bicolor</i>	3	4
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>	3	4
Sprangletop	<i>Leptochloa filiformis</i>	3	4
Sorghum, volunteer	<i>Sorghum bicolor</i>	3	3
Stinkgrass	<i>Eragrostis cilianensis</i>	3	4
Wheat, volunteer ²	<i>Triticum aestivum</i>	3	4
Witchgrass	<i>Panicum capillare</i>	3	4

¹ Apply with atrazine at 0.25 to 0.5 lb active per acre for enhanced weed control.

² Apply before tiller initiation of grasses.

³ Indicates growth suppression.

⁴ Will not control volunteer LibertyLink crops from previous season.

⁵ See Rate Conversion Table for pounds active ingredient per acre

Weed Resistance Management

Herbicide resistance has become an important management focus to maximize weed control. Weeds have developed resistance to many herbicide modes of action. SINATE Herbicide contains both a Group 10 (glufosinate-ammonium) and a Group 27 (topramezone) herbicide to reduce development of herbicide resistance in weeds. Any weed population may contain plants resistant to Group 10 and/or Group 27 herbicides. Resistant plants may dominate weed populations if Group 10 and Group 27 herbicides are used repeatedly in the same fields. It is recommended to follow effective resistance-management strategies.

Follow as many as possible of the following recommendations to delay herbicide resistance in weeds:

- Rotate the use of SINATE Herbicide or other Group 10 and 27 herbicides in the same and successive growing seasons with herbicides of different groups that control the same weeds.
- Use tank mixtures with labeled herbicides containing active ingredients that are effective on both susceptible and resistant weed species. Use the highest label rates allowed to achieve the highest weed control. Weed resistance does not develop when weeds

do not survive the herbicide treatment. Consult your local extension service or certified crop advisor if unsure of weed susceptibility to each herbicide active ingredient.

- Adopt an integrated weed-management program that includes non-herbicide components, such as, scouting, use of historical information related to herbicide use and crop rotation; mechanical control practices including various forms of tillage and hand removal; cover crops; cultural control practices including crop rotation, row spacing, and using higher crop seeding rates, weed-competitive crops or varieties, and precision fertilizer application and timing to favor the crop and not weeds); biological control agents, if available; and other management practices.
- Scout before and after herbicide applications to monitor development of herbicide resistance in weed populations. 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 herbicide resistance in weeds is suspected, prevent weed seed production in the affected area by hoeing or hand removal, using an effective herbicide from a different group, or by a mechanical method such as 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 population continues to progress after treatment with this product, discontinue use of this product and use other management strategies. Only use herbicides with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional herbicide resistance-management and integrated weed-management recommendations for specific crops and weed species.
- For further information or to report suspected resistance, contact AMVAC Chemical Corporation at 1-888-462-6822.

Best Management and Stewardship Practices

Adopt a diversified weed management system for best stewardship of SINATE HERBICIDE and for optimum weed control. Best management practices that diversify weed management include using herbicide treatments with multiple modes of action (MOA) that are effective on target weeds. Apply herbicides correctly and in proper application, including timing, full use-rates and appropriate spray volumes. Use highest rates of effective herbicides when combined and in herbicide and crop rotation. Use cultural (e.g., crop rotation) and mechanical (e.g., tillage) weed management tactics. Alternate herbicide-resistant traits and/or use herbicide-resistant trait stacks for more efficient rotation. Correctly identify weeds and know where the weeds are in your fields. Start with clean fields. Effective tillage or the use of a burndown herbicide program can control emerged weeds prior to planting. Clean equipment to prevent the spread of weeds seeds. Use residual herbicides in pre-emergence and early post-emergence applied applications. Scout fields soon after herbicide application to identify escaped weeds, population shifts, and herbicide resistant biotypes. Closely monitor problematic areas with difficult-to-control weeds or dense weed populations. Control weed escapes by spot herbicide applications, rope wicking, cultivation or hand removal of weeds or other techniques to stop weed seed production and accumulation in the soil bank. Stopping weed seed development will decrease weed populations from year to year and prevent major weed shifts.

Crop Resistance

Apply SINATE HERBICIDE during favorable growing conditions for optimum crop resistance and weed control. Crops under environmental stress are more likely to show injury from any herbicide application. Rarely, plants under environmental stress conditions and treated with SINATE HERBICIDE may show some transient discoloration of the portion of the leaves intercepting the spray application. These symptoms are temporary and occur rarely, and crop growth is not affected.

Cultivation

Avoid disturbing (e.g., cultivation) treated areas for at least 5 days before and 7 days following an application of SINATE HERBICIDE to allow maximum herbicide absorption and weed control. Avoid deep cultivation that will move dormant weed seeds into the upper soil zone where seeds may germinate.

Insecticide Information

SINATE HERBICIDE may be used sequentially or in combination with soil or foliar applied insecticides registered for use in LibertyLink corn.

Cleaning Spray Equipment

To avoid injury to sensitive crops, drain and clean application equipment thoroughly using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions. Clean and triple rinse equipment before and after applying this product.

II. APPLICATION AND MIXING INSTRUCTIONS

SINATE HERBICIDE applied postemergence controls many annual weeds in conservation and conventional tillage crop production systems. **DO NOT** apply SINATE HERBICIDE within 30 feet of a native plant community. To the extent consistent with applicable law, the applicator is responsible for any loss or damage that results from spraying SINATE HERBICIDE in a manner other than specified in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regards to spraying.

Spray Coverage

Weed plant must be thoroughly covered with spray droplets to achieve optimum and consistent control of emerged weeds. Dense leaf canopies can prevent adequate spray coverage resulting in poor weed control. **DO NOT** use flood jet nozzles, controlled droplet application equipment, or air-assisted spray equipment.

Ground Application Methods and Equipment

Apply SINATE HERBICIDE with properly calibrated ground equipment in a minimum of 15 or more gallons of water per acre. Use higher water volumes when treating larger weeds and/or dense weed infestations. SINATE HERBICIDE applications can be made with drop nozzles if the crop canopy prevents adequate weed coverage using broadcast applications methods. Apply at ground speed of less than 15 mph to attain adequate coverage.

After using SINATE HERBICIDE, triple rinse the spray equipment and clean with a commercial tank cleaner before using the equipment for a new application. Make sure any rinsate or foam is thoroughly removed from spray tank and boom.

Mandatory Spray Drift Mitigation: When applying to crops via aerial application equipment, the spray boom must be mounted on the aircraft so as to minimize drift caused by wing tip or rotor blade vortices. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

- When applying to crops via aerial application equipment, applicators must use 1/2 swath displacement upwind at the downwind edge of the field.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.
- For aerial applications, **DO NOT** release spray at a height greater than 10 feet above the crop canopy, unless a greater application height is required for pilot safety.
- For ground applications and aerial applications, select nozzle and pressure that deliver medium to coarse spray droplets as indicated in nozzle manufacturer's catalogues and in accordance with ASABE Standard 572.1.
- Spray at the appropriate boom height based on nozzle selection and nozzle spacing, but do not exceed a boom height of 24 inches above target pest or crop canopy. Set boom to lowest effective height over the target pest or crop canopy based on equipment manufacturer's directions. Automated boom height controllers are recommended with large booms to better maintain optimum nozzle to canopy height. Excessive boom height will increase the potential for spray drift.

Advisory Spray Drift Language

- **Pollinator Advisory:** This product contains an herbicide. Follow all label directions and precautions to minimize potential off-target exposure in order to prevent effects to non-target plants adjacent to the treated site which may serve as habitat or forage for pollinators.
- **Spray Drift Management:** The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.
- **Importance of Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!** See **Wind, Temperature and Humidity**, and **Temperature Inversions** sections of this label.

Techniques for Controlling Droplet Size:

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

Controlling Droplet Size – Aircraft:

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations. AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- **Boom Length** - Longer booms increase drift potential. Therefore, a shorter boom length is recommended.
- **Application Height** - Application more than 10 ft above the canopy increases the potential for spray drift.

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

Drift Reduction Technology (DRT). The EPA Drift Reduction Technology (DRT) Program was developed to encourage the manufacture, marketing, and use of spray technologies scientifically verified to significantly reduce pesticide drift. The use of DRTs should result in significantly less pesticide from spray applications drifting and being deposited in areas not targeted by those applications, compared to spray technologies that do not meet the minimum DRT standard. EPA-verified drift reduction technologies (DRTs) and their ratings will be added to the following webpage as they become available: <https://www.epa.gov/reducing-pesticide-drift/epa-verified-and-rated-drift-reduction-technologies>.

Wind. Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS. **Note:** Local terrain can influence wind patterns. Every applicator needs to be familiar with local wind patterns and how they affect spray drift.

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

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

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

Agriculturally approved drift-reducing additives may also be used in accordance with product labels.

III. ADDITIVES

Postemergence applications of SINATE HERBICIDE require the addition of an adjuvant and a nitrogen fertilizer source to achieve optimum weed control.

1. ADJUVANTS: Preferred adjuvants include: MSO (methylated seed oil) adjuvants at 1% v/v (1 gallon/100 gallons of water) or HSMOC (high surfactant methylated oil concentrate) adjuvants at 0.5 to 0.75% v/v (2 to 3 qts/100 gallons of water). MSO or HSMOC adjuvants will result in greater weed control across a wide range of environmental conditions including when weeds are under moisture and/or temperature stress. Petroleum oil concentrate (COC) adjuvants may also be used 1% v/v. For adjuvant use when tank-mixing with other herbicides refer to Section VII. Crop Use Directions – Tank Mixes.

AND

2. NITROGEN FERTILIZER SOURCE: Always add spray grade ammonium sulfate (AMS) at 3 lbs/A. A liquid AMS product may be used which provides an equivalent rate of AMS per acre. Commercial liquid solutions of AMS contain approximately 3.4 lbs of AMS per gallon.

IV. MIXING ORDER INSTRUCTIONS:

SINATE HERBICIDE is formulated to mix readily in water. Prior to adding SINATE HERBICIDE to the spray tank, ensure that the spray tank is thoroughly clean, particularly if an herbicide with the potential to injure crops other than corn was previously used. 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.

Following are mixing order guidelines for SINATE HERBICIDE either alone or with other components, including spray adjuvants:

WATER:

1. Fill the spray tank ½ to ¾ full with clean water.
2. Add the required amount of SINATE HERBICIDE to the spray tank while agitating.
3. After SINATE HERBICIDE has visibly dispersed, continue agitation and add spray additives while filling the remainder of the tank with water.

TANK-MIX PREPARATION:

When tank-mixing SINATE HERBICIDE with specified herbicides, add the other herbicides and other components in the following order, all while agitating:

1. Fill spray tank ½ to ¾ full with clean water and start agitation.
2. Add soluble packet products and thoroughly mix.
3. Add SINATE HERBICIDE and thoroughly mix.
4. Add WP (wettable powder), DG (dispersible granule), DF (dry flowable), or F (liquid flowable) formulations.
5. Add EC (emulsifiable concentrate) and liquid products.
6. Add fertilizer and spray adjuvants to the spray tank.
7. Use a silicone based anti-foam agent if foaming occurs.
8. Fill the remainder of the tank with water.
9. Maintain adequate agitation until all contents in the tank are applied.

V. TANK MIX INFORMATION

SINATE HERBICIDE may be used sequentially or tank mixed with other herbicides as part of a complete weed control program. Tank mix directions are for use only in states where the sequential or tank mix product and application site is registered. Refer to Crop Use Directions (Section VII) for more details and for specific tank mix restrictions. Read and follow the applicable Restrictions and Limitations (Section VI) and Directions for Use on all products included in any tank mix. The most restrictive labeling applies to tank mixes. **DO NOT** use liquid fertilizer as a carrier for postemergence applications of SINATE HERBICIDE. Use only water as a carrier.

After using SINATE HERBICIDE, triple rinse the spray equipment and clean with a commercial tank cleaner before using the equipment for a new application. Make sure any rinsate or foam is thoroughly removed from spray tank and boom. Rinsate may be disposed following the pesticide disposal directions on this label.

VI. ROTATIONAL CROP RESTRICTIONS

The following rotational crops may be planted after uniformly applying SINATE HERBICIDE at the application rates in corn shown in the chart below. **DO NOT** plant earlier than the specified interval at the rates shown in the chart below, as crop injury could occur. Avoid over-applications by minimizing overlaps of spray swaths and by switching off spray boom when turning (end rows). In the event of a crop loss due to weather or other causes, any corn type can be replanted at any time following an application of SINATE Herbicide. If SINATE HERBICIDE was tank-mixed with other herbicides, the label replanting restrictions for these herbicides must also be followed.

Rotational Crop	Rotational Interval (Months) SINATE HERBICIDE Application Rate	
	21 fl oz/A ⁶	28 fl oz/A ⁶
Corn, sweet corn and popcorn (all types)	Immediate	Immediate
Cereal grains (wheat, barley, oats, rye)	3	3
Grass, grown for seed and forage	3	3
Rice	3	3
Alfalfa	9	9
Cotton	9	9
Peanut	9	9
Potato	9	9
Sorghum	9	9
Soybean	9	9

Sunflower	9	9
Canola	9	18
Dry Bean (excluding cranberry bean)	9 ¹	18 ²
Flax	9	18
Green Bean (including seed production)	9 ^{3,4}	18 ⁵
Pea	9	18 ²
Sugar beet	9 ⁴	18 ²
All Other Crops	18	18

¹ 18 month interval in MI, MN, MT, ND, SD, WI, and WY.

² 9 month interval in ID, OR, and WA.

³ 18 month interval in ID, UT, and in area East of Cascade Mountains in OR and WA.

⁴ 18 month interval in CO, MI, MN, MT, NE (Panhandle counties), ND, SD, WI, and WY.

⁵ 9 month interval in area West of Cascade Mountains in OR and WA.

⁶ See Rate Conversion Table for pounds active ingredient per acre

VII. CROP USE DIRECTIONS

FIELD AND SILAGE CORN

SINATE HERBICIDE can be selectively applied postemergence only on LibertyLink field corn hybrids (including silage corn). Apply SINATE HERBICIDE as a postemergence, broadcast spray at 21 fl oz/A to 28 fl oz/A (See Rate Conversion Table for pounds active ingredient per acre) to LibertyLink field corn from emergence up to 24 inches tall or in the V7 (7 developed collars) stage of growth, whichever occurs first. To achieve spray coverage of weeds in corn larger than 24 inches tall, SINATE HERBICIDE may be applied to LibertyLink field corn up to 36 inches tall using ground application and drop nozzles. Avoid spraying into the whorl or leaf axils of corn plants.

Restrictions to use on LibertyLink field corn:

- Apply SINATE HERBICIDE before weeds exceed maximum labeled size.
- Apply a minimum spray volume of 15 gpa for ground applications, and 10 gpa for aerial applications. Thorough coverage of weeds is essential.
- Apply higher spray volumes for dense canopies, large weeds, or unfavorable growing conditions.
- **DO NOT** apply more than 28 fl oz per treated acre (0.022 lb ai/A topramezone + 0.54 lb ai/A glufosinate) in a single application.
- **DO NOT** apply more than once per year.
- **DO NOT** apply more than 28 fl oz per treated acre (0.022 lb ai/A topramezone + 0.54 lb ai/A glufosinate) per year.
- **DO NOT** make a post-harvest or fallow application if SINATE Herbicide has been applied to in-season corn.
- SINATE HERBICIDE applied following soil-applied insecticides will not injure corn.
- SINATE HERBICIDE is rainfast within 4 hours after application.
- SINATE HERBICIDE can be applied postemergence up to 60 days of harvesting field corn forage and within 70 days of harvesting field corn grain and corn fodder.
- **DO NOT** use nitrogen solutions as spray carriers.
- **DO NOT** apply SINATE HERBICIDE if corn shows injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.).
- **DO NOT** apply this product through any type of irrigation system.
- Refer to the "Rotational Crop Restrictions" section under the "Product Information" heading of this label for the appropriate rotational crop plant back intervals.

SWEET CORN

SINATE HERBICIDE can be selectively applied postemergence only on LibertyLink sweet corn hybrids. Apply SINATE HERBICIDE as a postemergence, broadcast spray at 21 fl oz/A (see Rate Conversion Table) to LibertyLink sweet corn hybrids from emergence up to V6 (6 developed collars) stage of growth.

Restrictions to use on LibertyLink sweet corn:

- **DO NOT** apply SINATE HERBICIDE within 50 days of harvesting sweet corn ears and within 55 days of harvesting sweet corn stover.
- **DO NOT** use nitrogen solutions as spray carriers.
- **DO NOT** apply this product through any type of irrigation system.
- **DO NOT** apply more than 21 fl oz per treated acre (0.0164 lb ai/A topramezone + 0.4 lb ai/A glufosinate) in a single application.
- **DO NOT** apply more than once per year.
- **DO NOT** apply more than 21 fl oz per treated acre (0.0164 lb ai/A topramezone + 0.4 lb ai/A glufosinate) per year.

- **DO NOT** make a post-harvest or fallow application if SINATE Herbicide has been applied to in-season corn.
- **DO NOT** apply SINATE HERBICIDE if corn shows injury from prior herbicide applications or environmental stress (drought, excessive rainfall, etc.)

Tank Mixes

SINATE HERBICIDE may be applied in tank mix combinations with labeled rates of other registered products that are labeled for the timing and method of application to corn. The tank mix partner must be used in accordance with the label limitations and precautions. No label dosage rates may be exceeded. **DO NOT** mix SINATE HERBICIDE with any product containing a label prohibition against such mixing. Refer to the specific crop section for rates and other restrictions.

Apply a tank-mix of SINATE Herbicide plus atrazine at 0.25 to 0.5 lb active per acre for enhanced control of both grass and broadleaf weeds. A tank mix of SINATE Herbicide plus atrazine can be applied to LibertyLink field corn and LibertyLink sweet corn up to 12 inches in height. Refer to the atrazine label for additional crop use directions and precautions.

VIII. BETWEEN CROP APPLICATIONS (Fallow Fields or Post Harvest)

SINATE HERBICIDE may be used as a foliar application to control emerged broadleaf and grass weeds at any time of the year in a fallow crop system, and during the period following crop harvest and before the following crop is planted. If tank mixing SINATE with another herbicide, follow the precautions and directions for use of the most restrictive herbicide. Crops may be planted after observing the required interval as defined in the Rotational Crop Restrictions section (Table 3) when using SINATE alone for between crop applications.

Restrictions to use on fallow fields or post harvest:

- **DO NOT** apply more than 28 fl oz per treated acre (0.022 lb ai/A topramezone + 0.54 lb ai/A glufosinate) in a single application.
- **DO NOT** make more than 1 application per year.
- **DO NOT** apply more than 28 fl oz per treated acre (0.022 lb ai/A topramezone + 0.54 lb ai/A glufosinate) per year.
- **DO NOT** make an in-season corn application if SINATE Herbicide has been applied post-harvest or fallow.
- **DO NOT** apply more than 28 fl oz per treated acre (0.022 lb ai/A topramezone + 0.54 lb ai/A glufosinate) per year.

IX. SEQUENTIAL HERBICIDE COMBINATIONS AND USES

In addition to the control of many emerged broadleaf weeds, SINATE HERBICIDE controls or suppresses the growth of several emerged grass weed species. To target a broader spectrum of annual grasses, apply SINATE HERBICIDE as a sequential postemergence treatment following a preemergence herbicide which contains an active ingredient including acetochlor, s-metolachlor, or pyroxasulfone (HG 15) or pendimethalin (HG3). SINATE HERBICIDE can also be used in sequential programs following registered burndown herbicides.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage, disposal, or cleaning of equipment.

PESTICIDE STORAGE:

Store product in original container only. Store product in a cool, dry place. Do not store this product under wet conditions. If this product has been stored where freezing temperatures have occurred, agitate or mix contents of container well before use. Avoid cross-contamination with other pesticides.

PESTICIDE DISPOSAL:

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

FOR NONREFILLABLE RIGID PLASTIC 2.5-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 1-GALLON BUT EQUAL TO OR LESS THAN 5-GALLON CAPACITY: Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse (or equivalent) this container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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 and continue to drain for 10 seconds after the flow begins to drip. 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 this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state, and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.]

FOR NONREFILLABLE RIGID PLASTIC 30-GALLON CONTAINERS AND OTHER CONTAINERS OF GREATER THAN 5-GALLON CAPACITY: Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse (or equivalent) this container 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 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. 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 and continue to drain for 10 seconds after the flow begins to drip. 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 this container for recycling, if available. If recycling is not available, dispose of in accordance with federal, state, and local regulations and procedures, which may include puncturing the properly rinsed container and disposing in a sanitary landfill.

FOR ALL REFILLABLE CONTAINERS, EXCEPT TRANSPORT CONTAINERS: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning this container before refilling is the responsibility of the refiller. Cleaning this container before final disposal is the responsibility of the person disposing of the container. To clean this container before final disposal, empty the remaining contents from this container into application equipment or a tank-mix. 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. Then offer this container for recycling, if available.

FOR ALL TRANSPORT CONTAINERS AS DEFINED IN 40 CFR 156.3: Emptied container retains vapor and product residue. Observe all precautions stated on this label until the container is cleaned, reconditioned, or destroyed. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, and worn-out threads and closures. Clean thoroughly before reuse for transportation of a material of different composition or before retiring this transport vehicle from service.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; and (b) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions. THIS WARRANTY DOES NOT EXTEND TO THE USE OF THIS PRODUCT CONTRARY TO LABEL INSTRUCTIONS, OR UNDER CONDITIONS NOT REASONABLY FORESEEABLE.

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