

ACETO

ASULAM 400 Herbicide

For Post-emergent Weed Control in Sugarcane, Turf, Ornamentals, Christmas Tree Plantings and Non-Cropland

FOR AGRICULTURAL OR COMMERCIAL USE ONLY. NOT FOR USE BY HOMEOWNERS.

Active Ingredient:

Sodium salt of asulam, methyl [(4-aminophenyl)sulfonyl]carbamate*..... 36.2%

Inert Ingredients:..... 63.8%

Total:..... 100.0%

* Equivalent to 33.0% asulam acid or 3.30 lb. Asulam per gallon.

Keep Out of Reach of Children

CAUTION

First Aid	
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 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 the 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 inhaled:	<ul style="list-style-type: none">• 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.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	

Net Contents: 265 Gals.

EPA REG. NO. 2749-523

EPA EST. NO. 1381-AR-002

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Harmful If Absorbed Through Skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves (such as Nitrile, Butyl, Neoprene, and/or Barrier Laminate)
- Shoes and socks

User Safety Requirements

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

- Users must wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Users must leave the treated area, and remove clothing immediately if pesticide gets inside.
- Users must remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Wash the outside of gloves before removing.

Engineering Controls

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. However, full PPE must be available in the event that the handler exits the aircraft, enclosed cab, etc., prior to the REI.

Environmental Hazards

This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination. Surface water contamination may occur in areas with poorly draining soils and little or no buffers or in areas where drainage systems flow directly to surface water. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

Directions for Use

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

Read entire label before using this product.

Chemigation: Do not use this product through any type of irrigation system.

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.

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, wear:

- Coveralls
- Chemical-resistant gloves
- Shoes and socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow others to enter the treated area until sprays have dried.

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

Storage and Disposal

PESTICIDE Storage: Do not contaminate water, food or feed by storage or disposal. Store in a dry location away from children, animals, foods, feeds, seeds, or other agricultural chemicals. Store at temperatures greater than 20°F. Keep container closed when not using. Keep storage area locked when not in use. In the event of spillage or leakage, soak up material with absorbent clay, sand, sawdust, or other absorbent material. Scrape up and dispose of in accordance with information given under Pesticide Disposal. Repackage and relabel usable product in a sound container.

Pesticide Disposal: Wastes resulting from the use of this product may 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 $\frac{1}{4}$ 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 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 for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration.

APPLICATION PROCEDURES

Spray Drift

Avoiding spray drift at the application site is the responsibility of the applicator. Many variables determine the potential for drift. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or the applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory below.

Aerial Drift Reduction Advisory

Information on 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. 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).

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: 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 Orientation: Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- 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. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than $\frac{3}{4}$ of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: 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 should compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. 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 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: Applications should not occur during a temperature inversion because 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 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 move 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: The pesticide should only be applied when the potential for drift to adjacent sensitive areas {e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops} is minimal (e.g. when wind is blowing away from the sensitive areas).

SUGARCANE

Restrictions and Precautions: Do not rotate to any crop which is not registered for use with products containing asulam for one year following the last application of this product.

- Cover crops may be planted if they are plowed under and not grazed; otherwise, do not plant crops other than sugarcane in treated areas.
- Do not graze or feed sugarcane fodder and forage to livestock.
- Asulam 400 should be used when weeds are actively growing and may be applied to plant cane or to cane grown from stubble.
- Do not harvest sugarcane within the following number of days after application: 140 days in mainland USA (excluding Louisiana), 100 days in Louisiana and 400 days in Hawaii.
- Differences in crop tolerance to asulam among sugarcane varieties have been reported in Louisiana. Contact your local County Agent or University Extension Specialist for further information.

Rates: The rates in the tables below are for broadcast application.

Ground Application: Apply as a water mix spray in 15-100 gallons of water per acre.

Aerial Application: Apply as a water mix spray in 3-5 gallons of water per acre; in Hawaii, use 5-10 gallons per acre.

Banded Application: Reduce rates according to the following formula: band width (inches)/row width (inches) X broadcast rate per acre = banded rate per acre.

Spot Treatment: Apply a 5% v/v Asulam 400 spray (1 gallon per 20 gallons of water) but not exceeding a rate of 8 pints of the concentrated herbicide per acre.

Addition of an adjuvant approved for use on growing crops to the water mix spray will improve weed control when environmental conditions are not optimal. A nonionic surfactant of at least 80% active ingredient can be added at a rate of 1-2 quarts per 100 gallons of spray mix (0.25%-0.5% by volume). Alternatively, a crop oil concentrate containing 80 - 85% paraffinic oil and 15%-20% nonionic surfactant can be added at a rate of 4 quarts per 100 gallons (1% by volume) of spray mix.

First Application per Season

Weed Species	Rate (pints per acre)	Special Instructions
Raoulgrass or Itchgrass (<i>Rottboellia exaltata</i>)	8	Apply with a surfactant when the grass is not more than 8 inches tall
Johnsongrass (<i>Sorghum halepense</i>)	8	Apply when the grass is 12-18 inches tall. Johnsongrass should be actively growing and the average air temperature should be at least 60°F or higher.
Paragrass or Californiagrass (<i>Brachiaria mutica</i> or <i>Panicum purpurascens</i>)	8	Apply when the grass is no more than 6-8 inches tall.
Crabgrass (<i>Digitaria spp.</i>)	6-8	Use the lower rate prior to seed head formation and the higher rate after heading.
Alexandergrass (<i>Brachiaria plantaginea</i>) Barnyardgrass (<i>Echinochloa crusgalli</i>) Broadleaf panicum (<i>Panicum adspersum</i>) Foxtail (<i>Setaria spp.</i>) Goosegrass (<i>Eleusine indica</i>)	6-8	Use the lower rate if the grass is no more than 6-8 inches tall and the higher rate if more than 8 inches tall.

Second Application per Season

A second application may be made 4 to 10 weeks after the first application if needed to control weeds prior to closure of the planted sugarcane.

(Use in Heavy Weed Infestations or Re-infestation or where Weed Species Germinate at Different Times in the same Growing Season)

Weed Species	Rate for Each Application (pints per acre)	Special Instructions
Crabgrass (<i>Digitaria spp.</i>)	6-8	Apply before seed head formation. Use the lower rate when Crabgrass is less than 6 inches high, and the higher rate from 6 inches to the start of head formation.
Raoulgrass or Itchgrass (<i>Rottboellia exaltata</i>)	8	Apply with surfactant when the grass is no more than 12 inches tall.
Johnsongrass (<i>Sorghum halepense</i>)	8	Apply when the grass is 18-24 inches tall.

TURF (FOR SOD FARM USE ONLY)

All turf grasses except for St. Augustinegrass and Tifway 419 Bermudagrass - Apply 8 pints Asulam 400 Herbicide per acre per year.

St. Augustinegrass and Tifway 419 Bermudagrass Sod Farm Use - Apply 5 pints/year without surfactant in 20 to 50 gallons of water (1 pint in 4 to 10 gallons of water per 5,445 square feet) to St. Augustine grass or Tifway 419 Bermudagrass. Do not apply to these turf grasses under stress or that have been freshly mowed.

To control:

Bull grass
(*Paspalum supinum*)

Goosegrass
(*Eleusine indica*)

Crabgrass
(*Digitaria spp.*)

Sandbur
(*Cenchrus spp.*)

NON-CROPLAND USES

For use as a post-emergent treatment to control weeds in areas such as: boundary fences and fence rows; ditch banks; highway, pipeline and roadside rights-of-way; lumberyards; railroad and utility rights-of-way and yards; industrial plant sites; storage areas; and warehouse lots.

Apply by ground spray using 20-100 gallons of solution per acre with a nonionic surfactant at a rate of 0.25% by volume.

Maximum Rate: 1 gallon per acre limited to one application per year. Aerial application is prohibited.

Weed Species	Rate (pints per acre)	Special Instructions
Crabgrass (<i>Digitaria spp.</i>)	8	Apply before the grass reaches seed head formation.
Johnsongrass (<i>Sorghum halepense</i>)	8	Apply when the grass is at least 18 inches tall. As a spot treatment in Hawaii, apply 8 pints in 50 gallons of spray mixture per acre.
Paragrass or Californiagrass (<i>Brachiana mutica</i> or <i>Panicum purpurascens</i>)	8	Apply before seed head formation. As a spot treatment in Hawaii, apply in 50 gallons of spray mixture per acre.
Western bracken (<i>Pteridium aquilinum</i> var. <i>pubescens</i>)	7-8	Apply when the fern is in full frond. Use the higher rate in heavy infestations.

Christmas Trees

For use as a post-emergent treatment in Douglas fir, Grand fir, Nobel fir, or Scotch pine plantings, for Christmas trees. Do not graze or feed forage from treated areas to livestock.

Maximum Rate: 1 gallon per acre limited to one application per year.

Apply a minimum 20 gallons of solution per acre for ground application. Aerial application is prohibited.

Spray at a rate of 1 gallon of solution per acre (without a surfactant) after bud-break and hardening of new tree growth to control western bracken (*Pteridium aquilinum* var. *pubescens*), which should be in full frond.

Ornamental Shrubs

Maximum Rate: 1 gallon per acre limited to one application per year. Broadcast apply as a post-

emergent treatment, without a surfactant, at a rate of 1 gallon in 20 gallons of water per acre to the following species of junipers and yews:

Juniper andorra	Taxus cuspidata
Juniper chinensis	Taxus media
Juniper conferta	Podocarpus macrophyllus
Juniper horizontalis	
Juniper litoralis	
Juniper Sabina	

To control:

Barnyardgrass

(*Echinochloa crusgalli*)

Crabgrass

(*Digitaria spp.*)

Fall Panicum

(*Panicum dichotomiflorum*)

Foxtail

(*Setaria spp.*)

Goosegrass

(*Eleusine indica*)

Horseweed or Mare's tail

(*Conyza canadensis*)

Apply when the weeds are between the stages of early seedling and early seed-head formation.

IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following Conditions, Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Aceto Agricultural Chemicals Corporation. All such risks shall be assumed by the user or buyer.

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