GROUP 18 HERBICIDE

ASULAM 4F

Herbicide

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

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

ACTIVE INGREDIENT:	
Sodium salt of asulam (methyl sulfanilylcarbamate)*	36.2%
OTHER INGREDIENTS	63.8%
TOTAL	100.0%

*Equivalent to 33.1% asulam or not less than 3.34 lbs. per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals

CAUTION: Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

FIRST AID

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.
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. • 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 1-800-424-9300 for emergency medical treatment information.

SEE INSIDE LEAFLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

AD090111

EPA Reg. No. 70506-139-5905 **EPA Est. No. 5905-FL-06**

Manufactured in the United Kingdom

DIRECTIONS FOR USE

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

Read entire label before using this product.

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Store at temperatures above 20°F.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container.
[for containers less than 5 gallons] 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 rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

[for containers greater than 5 gallons] Triple rinse or pressure rinse as follows:
Triple rinse: 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. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Pressure rinse: 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 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.

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

HELENA®

Manufactured For
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017

PEEL BACK BOOK HERE AND RESEAL AFTER OPENING

NET CONTENTS:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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), and 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.

ENGINEERING CONTROL STATEMENTS

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.

USER SAFETY RECOMMENDATIONS

Users should leave the treated area, remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should 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.

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 to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not clean equipment or dispose of equipment washwater in a manner that will contaminate resources. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes.

DIRECTIONS FOR USE

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

Read entire label before using this product.

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, chemical-resistant gloves, and shoes plus socks.

STORAG

PESTICIDE STORAGE: Do not contaminate water, temperatures above 20°F.

PESTICIDE DISPOSAL: Wastes resulting from the posal facility.

CONTAINER DISPOSAL: Nonrefillable containe
[for containers less than 5 gallons] Triple rinse as foll Empty the remaining contents into application equipr the container 1/4 full with water and recap. Shake for rinsate for later use or disposal. Drain for 10 second offer for recycling, if available, or puncture and dispo authorities, by burning. If burned, stay out of smoke.

[for containers greater than 5 gallons] Triple rinse or Triple rinse: Empty the remaining contents into applic and tighten closures. Tip container on its side and onds. Stand the container on its end and tip it back back and forth several times. Empty the rinsate into Repeat this procedure two more times. Then offer for incineration, or, if allowed by State and local authorit Pressure rinse: Empty the remaining contents into ap the flow begins to drip. Hold container upside down posal. Insert pressure rinsing nozzle in the side of th seconds after flow begins to drip. Then offer for recyc eration, or by other procedures allowed by State anc

CONTAINER DISPOSAL: Refillable container. R for any other purpose.
Cleaning the container before final disposal is the res is the responsibility of the refiller. To clean the conta into application equipment or mix tank. Fill the conta with the pump for 2 minutes. Pour or pump rinsate procedure two more times.

GENERAL INSTR

APPLICATION INSTRUCTIONS

Do not apply **ASULAM 4F Herbicide** through any typ

Do not apply this product in a way that will contact wo may be in the area during application. For any requiren cide regulations.

SPRAY DRIFT

SENSITIVE AREAS: This herbicide should only be ap areas, bodies of water, known habitats for threatened ing away from the sensitive areas).

AVOIDING SPRAY DRIFT AT THE APPLICATION S many equipment- and weather-related factors determi these factors when making decisions. The following dr from aerial applications to agricultural field crops. Thes applications using dry formulations.

1. The distance of the outermost nozzles on the boom
2. Nozzles must always point backward parallel with t

Where states have more stringent regulations, they sho the information covered in the Aerial Drift Reduction Ac

IALS

frequently repeated skin contact
sing tobacco or using the toilet.

E)

(such as Nitrile, Butyl, Neoprene,
ntaining PPE. If no such instruc-
ndry.

ts listed in the Worker Protection
may be reduced or modified as

h thoroughly and put on clean

re removing. As soon as pos-

gricultural use. Use of this chem-
nd water contamination. Surface
as where drainage systems flow

n high water mark. Do not clean
apply when weather conditions
es.

R Part 170. This standard con-
houses, and handlers of agri-
cy assistance. It also contains
otective equipment (PPE), and
ered by the Worker Protection

ours.
and that involves contact with
and shoes plus socks.

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Store at temperatures above 20°F.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container.
[for containers less than 5 gallons] 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 rinse tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

[for containers greater than 5 gallons] Triple rinse or pressure rinse as follows:
Triple rinse: 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. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Pressure rinse: 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 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.

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

GENERAL INSTRUCTIONS AND INFORMATION

APPLICATION INSTRUCTIONS

Do not apply **ASULAM 4F Herbicide** through any type of irrigation systems.

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 regulations.

SPRAY DRIFT

SENSITIVE AREAS: This herbicide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitats for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. 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 to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the airstream 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 Information.

INFORMATION ON DROPLET SIZE: (This
The most effective way to reduce drift poter
droplets that provide sufficient coverage anc
cations are made improperly, or under u
"Temperature Inversions" below).

CONTROLLING DROPLET SIZE: (This se
- **Volume:** Use high flow rate nozzles to appl
- **Pressure:** Do not exceed the nozzle ma
larger droplets. When higher flow rates ar
- **Number of Nozzles:** Use the minimum r
- **Nozzle Orientation:** Orienting nozzles so
entations and is the recommended practic
- **Nozzle Type:** Use a nozzle type that is
produce larger droplets. Consider using
droplets and the lowest drift.

BOOM LENGTH: (This section is advisory i
For some use patterns, reducing the effecti
without reducing swath width.

APPLICATION HEIGHT: (This section is ac
Applications should not be made at a height
for aircraft safety. Making applications at the

SWATH ADJUSTMENT: (This section is ad
When applications are made with a crosswi
the field, the applicator should compensate
distance should increase, with increasing d

WIND: (This section is advisory in nature an
Drift potential is lowest between wind speeds
mine drift potential at any given speed. Appl
potential. **NOTE:** Local terrain can influence
affect spray drift.

TEMPERATURE AND HUMIDITY: (This se
When making applications in low relative h
Droplet evaporation is most severe when co

TEMPERATURE INVERSIONS: (This sectio
Applications should not occur during a temp
air mixing, which causes small suspended d
tions due to the light variable winds commor
with altitude and are common on nights with
continue into the morning. Their presence
identified by the movement of smoke from
in a concentrated cloud (under low wind co
indicates good vertical air mixing.

ASULAM 4F Herbicide can be applied t
water mix spray for ground applications. Us
tion, **ASULAM 4F Herbicide** should be mi
per acre should be used.

Addition of an adjuvant cleared for use on g
when environmental conditions are not opti
at the rate of 1 to 2 quarts per 100 gallons
paraffin-based petroleum oil and 15 to 20%

The rates of **ASULAM 4F Herbicide** given
tionally to the width of the band according t

AL

al. Open dumping is prohibited. Store at

d of on site or at an approved waste dis-

ntainer.

seconds after the flow begins to drip. Fill
ication equipment or a rinse tank or store
eat this procedure two more times. Then
ineration, or, if allowed by State and local

the container 1/4 full with water. Replace
ast one complete revolution, for 30 sec-
ontainer over onto its other end and tip it
or store rinsate for later use or disposal.
and dispose of in a sanitary landfill, or by
of smoke.
nd continue to drain for 10 seconds after
tank or collect rinsate for later use or dis-
PSI for at least 30 seconds. Drain for 10
ispose of in a sanitary landfill, or by incin-

de only. Do not reuse this container

of the container. Cleaning before refilling
e remaining contents from this container
er. Agitate vigorously or recirculate water
te collection system. Repeat this rinsing

RMATION

tly or through drift. Only protected handlers
e, consult the agency responsible for pesti-

o adjacent sensitive areas (e.g., residential
crops) is minimal (e.g., when wind is blow-

OF THE APPLICATOR. The interaction of
applicator is responsible for considering all
t be followed to avoid off-target movement
estry applications, public health uses or to

f the wingspan or rotor.
downwards more than 45 degrees.
ould be familiar with and take into account

INFORMATION ON DROPLET SIZE: (This section is advisory in nature and does not supersede the mandatory label requirements.) 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" below).

CONTROLLING DROPLET SIZE: (This section is advisory in nature and does not supersede the mandatory label requirements.)

- **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 direction 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: (This section is advisory in nature and does not supersede the mandatory label requirements.)
For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT: (This section is advisory in nature and does not supersede the mandatory label requirements.)
Applications should not be made at a height greater than 10 feet above the top of the largest 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: (This section is advisory in nature and does not supersede the mandatory label requirements.)
When applications are made with a crosswind, the swath will be displaced downwind. 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: (This section is advisory in nature and does not supersede the mandatory label requirements.)
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: (This section is advisory in nature and does not supersede the mandatory label requirements.)
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: (This section is advisory in nature and does not supersede the mandatory label requirements.)
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 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.

SUGARCANE

ASULAM 4F Herbicide can be applied to either plant cane or cane grown from stubble. Apply **ASULAM 4F Herbicide** as a water mix spray for ground applications. Use 15 to 100 gallons of water per acre, depending on local practice. For aerial application, **ASULAM 4F Herbicide** should be mixed in 3 to 5 gallons of water per acre, except in Hawaii, where 5 to 10 gallons of water per acre should be used.

Addition of an adjuvant cleared for use on growing crops to the **ASULAM 4F Herbicide** water mix spray will improve weed control when environmental conditions are not optional. Use either a non-ionic surfactant containing a minimum of 80% active ingredient at the rate of 1 to 2 quarts per 100 gallons (0.25 to 0.5% V/V) of water mix spray or a crop oil concentrate containing 80 to 85% paraffin-based petroleum oil and 15 to 20% non-ionic surfactant at the rate of 4 quarts per 100 gallons (1% V/V) of water mix spray.

The rates of **ASULAM 4F Herbicide** given below are for broadcast applications. For banded application, reduce the rate proportionally to the width of the band according to the following formula:

BAND WIDTH (inches) x Broadc
ROW WIDTH (inches)

For spot treatments, use a 5% v/v
LAM 4F Herbicide per acre per

Single Application per Gr

WEED SPECIES
Raoulgrass or Itchgrass *(Rottboellia exaltata)*
Johnsongrass *(Sorghum halepense)*
Paragrass or Californiagrass *(Brachiaria mutica* or *Panicum*
Crabgrass *(Digitaria* spp.*)*
Alexandergrass *(Brachiaria planteginea)* Barnyardgrass *(Echinochloa crus-galli)* Broadleaf panicum *(Panicum adspersum)* Foxtail *(Setaria* spp.*)* Goosegrass *(Eleusine indica)*

Two Applications per Gro

This may be required when initial
also be used when treating weed

WEED SPECIES
Crabgrass *(Digitaria* spp.*)*
Raoulgrass or Itchgrass *(Rottboellia exaltata)*
Johnsongrass *(Sorghum halepense)*

RESTRICTIONS AND PRECAU

- **ASULAM 4F Herbicide** shoul
- Cover crops may be planted if
- The following pre-harvest inter
  1) Mainland U.S.A. (except Lou
- Do not graze or feed sugarcane
- Cultivation and/or fertilizer appl
  result in less than optimum con
  prior to or within 7 days after a
- Differences in crop tolerance to
  your local County Agent or Uni

oes not supersede the mandatory label requirements.)
best drift management strategy is to apply the largest
educes drift potential, but will not prevent drift if appli-
ns (see "Wind", "Temperature and Humidity", and

s not supersede the mandatory label requirements.)
Nozzles with higher rated flows produce larger droplets.
res. For many nozzle types lower pressure produces
zles instead of increasing pressure.
orm coverage.
o the airstream produces larger droplets than other ori-
ital will reduce droplet size and increase drift potential.
tion. With most nozzle types, narrower spray angles
nozzles oriented straight back produce the largest

he mandatory label requirements.)
the wingspan or rotor length may further reduce drift

ersede the mandatory label requirements.)
of the largest plants unless a greater height is required
exposure of droplets to evaporation and wind.

rsede the mandatory label requirements.)
vnwind. Therefore, on the up and downwind edges of
g the path of the aircraft upwind. Swath adjustment
drops etc.).

ory label requirements.)
tors, including droplet size and equipment type, deter-
mph due to variable wind direction and high inversion
ould be familiar with local wind patterns and how they

s not supersede the mandatory label requirements.)
duce larger droplets to compensate for evaporation.

ot supersede the mandatory label requirements.)
tential is high. Temperature inversions restrict vertical
d cloud. This cloud can move in unpredictable direc-
versions are characterized by increasing temperatures
o wind. They begin to form as the sun sets and often
owever, if fog is not present, inversions can also be
oke generator. Smoke that layers and moves laterally
nile smoke that moves upward and rapidly dissipates

---

from stubble. Apply **ASULAM 4F Herbicide** as a
acre, depending on local practice. For aerial applica-
acre, except in Hawaii, where 5 to 10 gallons of water

Herbicide water mix spray will improve weed control
tant containing a minimum of 80% active ingredient
pray or a crop oil concentrate containing 80 to 85%
4 quarts per 100 gallons (1% V/V) of water mix spray.
ons. For banded application, reduce the rate propor-

BAND WIDTH (inches) x Broadcast Rate = Band Rate/Acre
ROW WIDTH (inches)

For spot treatments, use a 5% v/v **ASULAM 4F Herbicide** spray (1 gallon per 20 gallons of water). Do not exceed 8 pints of **ASULAM 4F Herbicide** per acre per treatment.

Single Application per Growing Season

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Raoulgrass or Itchgrass *(Rottboellia exaltata)*	Apply when the grass is 8 inches tall or less (addition of surfactant is necessary).	8 pints/acre
Johnsongrass *(Sorghum halepense)*	Apply when the grass is 12 to 18 inches tall. Johnsongrass should be actively growing and the average air temperature should be at least 60°F or higher.	
Paragrass or Californiagrass *(Brachiaria mutica* or *Panicum purpurascens)*	Apply when the grass is no more than 6 to 8 inches tall.	
Crabgrass *(Digitaria* spp.*)*	If treatment is made before the grass reaches seed head formation, then the lower rate should be used. If the grass is in early seed head formation, then the higher rate should be used.	6 to 8 pints/acre
Alexandergrass *(Brachiaria planteginea)* Barnyardgrass *(Echinochloa crus-galli)* Broadleaf panicum *(Panicum adspersum)* Foxtail *(Setaria* spp.*)* Goosegrass *(Eleusine indica)*	If treatment is made when the grass is 6 to 8 inches tall or less, then the lower rate should be used. If the grass is greater than 8 inches tall, then the higher rate should be used.	

Two Applications per Growing Season

This may be required when initial weed infestations are heavy and/or when rhizome Johnsongrass is present. Two applications may also be used when treating weed species which germinate at different times during one growth season.

WEED SPECIES	SPECIAL INSTRUCTIONS	1ST APPLICATION	2ND APPLICATION
Crabgrass *(Digitaria* spp.*)*	At each application the grass should be treated before seed head formation.	6 to 8 pints/acre	6 to 8 pints/acre
Raoulgrass or Itchgrass *(Rottboellia exaltata)*	At each application the grass should be 8 inches tall or less (addition of surfactant is necessary).	8 pints/acre	8 pints/acre
Johnsongrass *(Sorghum halepense)*	At each application the grass should be between 12 and 18 inches tall.	8 pints/acre	8 pints/acre

RESTRICTIONS AND PRECAUTIONS: Sugarcane

- **ASULAM 4F Herbicide** should be used when the weeds are actively growing.
- Cover crops may be planted if plowed under and not grazed.
- The following pre-harvest intervals for **ASULAM 4F Herbicide** applications to sugarcane must be observed: 1) Mainland U.S.A. (except Louisiana) – 140 days; 2) Louisiana only – 100 days; 3) Hawaii – 400 days.
- Do not graze or feed sugarcane fodder and forage to livestock.
- Cultivation and/or fertilizer applications or any other cultural practice that disturbs the root system of targeted weed species may result in less than optimum control when applying **ASULAM 4F Herbicide**. These practices are not recommended within 7 days prior to or within 7 days after applications of **ASULAM 4F Herbicide**.
- Differences in crop tolerance to **ASULAM 4F Herbicide** among Sugarcane varieties have been reported in Louisiana. Contact your local County Agent or University Extension Specialist for further information.

NON-CROPLAND

ASULAM 4F Herbicide may be used as a postemergent treatment to control weeds on non-cropland areas such as:

Boundary fences
Fence rows
Highway and roadside rights-of-way
Lumberyards
Pipeline rights-of-way
Railroad rights-of-way and yards
Storage areas and industrial plant sites
Utility rights-of-way and yards
Warehouse lots

A surfactant may be added to the spray solution at 0.25% by volume. (Use an approved non-ionic surfactant).

Apply **ASULAM 4F Herbicide** as a single water-mix spray for ground applications using 20 to 100 gallons of solution per acre, depending on local practice, to control the following weed species. Apply one application per season. Aerial application is prohibited.

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Crabgrass *(Digitaria* spp.*)*	Apply before the grass reaches seed head formation.	1 gal./acre
Johnsongrass *(Sorghum halepense)*	Apply when the grass is 18 inches tall. Use the higher rate in well-established heavy infestations. For spot treatment in Hawaii, use the higher rate in 100 gallons of solution and apply an amount not to exceed 50 gallons of total solution per acre.	
Paragrass or Californiagrass *(Brachiaria mutica* or *Panicum purpurascens)*	Apply before the grass reaches seed head formation. For spot treatment in Hawaii, use the same rate in 100 gallons of solution and apply an amount not to exceed 50 gallons of total solution per acre.	
Western bracken *(Pteridium aquilinum var. pubescens)*	Apply when the fern is in full frond.	7 to 8 pints/acre

CHRISTMAS TREES PLANTINGS

ASULAM 4F Herbicide may be used as a postemergent treatment in Christmas Tree Plantings where Douglas Fir, Grand Fir, Noble Fir or Scotch Pine are grown. Do not graze or feed foliage from treated areas to livestock. **ASULAM 4F Herbicide** should be applied as a water mix spray. For ground application, use a minimum of 20 gallons of solution per acre. Do not use a wetting agent with **ASULAM 4F Herbicide**. Apply one application per season. Aerial application is prohibited.

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Western bracken *(Pteridium aquilinum var. pubescens)*	Apply after bud break and hardening or firming of new tree growth. Bracken should be in full frond prior to treatment.	1 gal./acre

TURF (Sod Farms Only)

ASULAM 4F Herbicide can be applied on St. Augustinegrass and Tifway 419 Bermudagrass turf. Apply one application per season postemergence to the weeds listed below. Use 20 to 50 gallons of water per acre in the spray solution.

TURF SPECIES	WEED SPECIES	RATE
St. Augustinegrass	Bullgrass *(Paspalum supinum)* Crabgrass *(Digitaria* spp.*)* Goosegrass *(Eleusine indica)*	5 pints/acre
Tifway 419 Bermudagrass	Sandbur *(Cenchrus* spp.*)*	

Do not use a surfactant. Do not apply to turf which is under stress or freshly mowed.

OR

ASULAM 4F Herbicide can be applied as a single, post

JUNIPERS	
Juniperus andorra	*Juniperus ho*
Juniperus chinensis	*Juniperus lito*
Juniperus conferta	*Juniperus sa*

Treatment should be made with a minimum of 20 gallons

WEED SPECIES	
Barnyardgrass *(Echinochloa crus-galli)* Crabgrass *(Digitaria* spp.*)* Fall Panicum *(Panicum dichotomiflorum)* Foxtails *(Setaria* spp.*)* Goosegrass *(Eleusine indica)* Horseweed (marestail) *(Conyza canadensis)*	Apply seedli

Local conditions may affect the use of this chemical. Cons
specific recommendations for local weed problems and fo

CONDITIONS OF
LIMITATIONS OF

**Read the Conditions of Sale – Warranty and Limita
terms are not acceptable, return the product, unop**

The directions on this label are believed to be reliable anc
the crop to which the product is applied may result from tl
to follow the label directions or good application practice
"Company") or seller. In addition, failure to follow label di
Company warrants that this product conforms to the cher
to in the directions for use subject to the factors noted at
no other warranties or representations of any kind, expres
chantability or fitness for any particular purpose, and no s

The exclusive remedy against the Company for any cause
at Helena Chemical Company's election, one of the follow

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

To the extent allowed by law, the Company shall not be l
indirect, incidental, or consequential damages or expense
Company and the seller offer this product and the buyer a
of warranty, liability and remedies.

id areas such as:

eas and industrial plant sites
ts-of-way and yards
e lots

rfactant).

gallons of solution per acre,
erial application is prohibited.

	RATE
ion.	1 gal./acre
gher ot llons)	
ion.) o	
	7 to 8 pints/acre

Douglas Fir, Grand Fir, Noble
M 4F Herbicide should be
e. Do not use a wetting agent

	RATE
rior	1 gal./acre

pply one application per sea-
lution.

	RATE
	5 pints/acre

ORNAMENTALS

ASULAM 4F Herbicide can be applied as a single, postemergent, broadcast application on the following ornamentals.

JUNIPERS		YEWS
Juniperus andorra	*Juniperus horizontalis*	*Taxus cuspidata*
Juniperus chinensis	*Juniperus litoralis*	*Taxus media*
Juniperus conferta	*Juniperus sabina*	*Podocarpus macrophyllus*

Treatment should be made with a minimum of 20 gallons of water per acre. Do not use a surfactant.

WEED SPECIES	SPECIAL INSTRUCTIONS	RATE
Barnyardgrass *(Echinochloa crus-galli)* Crabgrass *(Digitaria* spp.*)* Fall Panicum *(Panicum dichotomiflorum)* Foxtails *(Setaria* spp.*)* Goosegrass *(Eleusine indica)* Horseweed (marestail) *(Conyza canadensis)*	Apply when the weeds are between the stages of early seedling and early seed head formation.	1 gal./acre

Local conditions may affect the use of this chemical. Consult State Agricultural Extension or Experiment Station weed specialists for specific recommendations for local weed problems and for information on possible lower dosages.

CONDITIONS OF SALE – WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

Read the Conditions of Sale – Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

The directions on this label are believed to be reliable and should be followed carefully. Insufficient control of pests and/or injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the "Company") or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

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

To the extent allowed by law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

n the following ornamentals.

YEWS
us cuspidata
us media
ocarpus macrophyllus

factant.

S	RATE
stages of early	1 gal./acre

Experiment Station weed specialists for sages.

' AND EDIES

s before using this product. If the ice will be refunded.

fficient control of pests and/or injury to nusual weather conditions or the failure trol of Helena Chemical Company (the , animals, man or the environment. The s reasonably fit for the purpose referred of the Company. The Company makes t, including no implied warranty of mer- w.

r use of this product shall be limited to,

st the Company are waived for special, imited to, loss of profits or income. The regoing conditions of sale and limitation

ASU

FOR AGRICULTURAL O

For Postemer
Ch

ACTIVE INGREDIENT:
Sodium salt of asulam (methyl sulfan
OTHER INGREDIENTS . . . . . .
TOTAL . . . . . .
*Equivalent to 33.1% asulam or not l

KEEP

IF ON SKIN OR CLOTHING:	• Take off co • Rinse skin i • Call a poisc
IF IN EYES:	• Hold eye op • Remove co • Call a poiso

Have the product container or labe contact 1-800-424-9300 for emerge

SEE INSIDE LEAFLET FOR AD

FOR CHEMI

AD090111

HELENA®

H

Job #57607

GROUP 18 HERBICIDE

ASULAM 4F

Herbicide

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

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

ACTIVE INGREDIENT:	
Sodium salt of asulam (methyl sulfanilylcarbamate)*	36.2%
OTHER INGREDIENTS	63.8%
TOTAL	100.0%

*Equivalent to 33.1% asulam or not less than 3.34 lbs. per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

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.
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. • 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 1-800-424-9300 for emergency medical treatment information.

SEE INSIDE LEAFLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND COMPLETE DIRECTIONS FOR USE.

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

AD090111

Manufactured in the United Kingdom

EPA Reg. No. 70506-139-5905
EPA Est. No. 5905-FL-06

Manufactured For
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300
COLLIERVILLE, TENNESSEE 38017